

EZ^{EASY}DV

Installation and User's Manual



Canopus Corporation
711 Charcot Ave.
San Jose, CA 95131

Canopus Part No. 000-10032-001
Printed in the USA
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First Edition - February 2000



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Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.



This equipment has been certified to comply with the limits for a class B computing device, pursuant to FCC Rules. In order to maintain compliance with FCC regulations, shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio and TV reception. The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Declaration of Conformity

According to FCC Part 15

Responsible Party Name: Canopus Corporation

Address: 711 Charcot Avenue
San Jose, CA 95131-2208

Telephone: (408) 954-4500

Declares that product: Model: M24-PC-912

Complies with Part 15 of the FCC Rules.

Responsible Person's Name: Roger Hounshell

FCC-B Radio Frequency Interference Statement



This equipment has been tested and found to comply with the limits of a Class-B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Notice 1

The changes or modifications not expressly approved by the party responsible for compliance could void the users authority to operate the equipment.

Notice 2

Shielded interface cables and AC power cord, if any, must be used in order to comply with the emission limits.

Canopus Corporation



**Tested to Comply
with FCC Standards**

For Home or Office Use



Specifications

Board Spec

Connector : IEEE 1394(i.LINK 4pin) x 1
Data format : Blue Book compliant DV Codec (5:1 DV compression)
Video Size : 720x480 (NTSC version)
720x576 (PAL version)
Audio Format : 4 channel 32kHz 12bit stereo
2 channel 32 / 44.1 / 48kHz 16bit stereo
Board length : 135mm x 107mm
Power : +5V 0.5A

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Introduction

Thank you

Thank you for purchasing EZDV, the DV editing card for everyone. Before installing the software we recommend you read this manual and acquaint yourself with the installation and use of the product. If you have any questions please call, fax, mail or email us at:

Canopus Corporation
711 Charcot Ave.
San Jose, CA 95131

Main telephone: (408)954-4500
Main fax: (408)954-4504
Technical support number: (408)954-4506
Web site: www.canopuscorp.com

About this manual

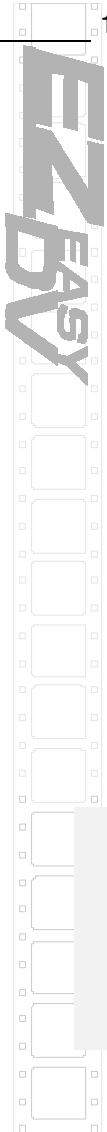
The information contained in this manual covers:

Chapter 1—Introduction

Provides information about contacting us and using this manual.

Chapter 2—Installation

Includes easy to follow instructions on how to install the EZDV hardware and software.



Chapter 3—Quick Start - Your First Editing Project

Walks through a simple production from capture to editing to output.

Chapter 4—EZ Video

Provides a detailed look at the EZ Video application for video capture and output.

Chapter 5—EZ Audio

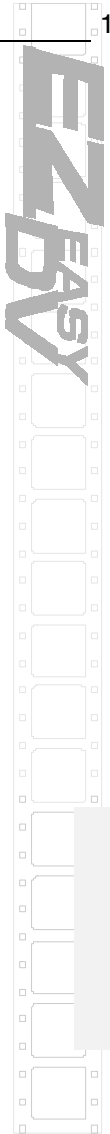
Provides a detailed look at the EZ Audio application for audio capture and output.

Chapter 6—EZ Navi

Provides a detailed look at the EZ Navi application for tape scanning and scene logging.

Chapter 7—EZ Edit

Provides a detailed look at the EZ Edit application for editing.



Manual conventions

The following conventions are used throughout this manual:

- **Bold** usually indicates software menu commands

File>Open

- *Italic* is used for emphasis and naming
- [square brackets] refer to software messages to you



“info check” notifies you to write down parameters or make note of manual suggestions.



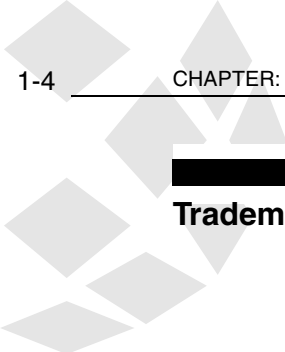
“caution” means to take care in avoiding physical injury or damage to the computer or peripherals.



“STATIC” warns you of situations where the danger of damage from static electricity is present.



The two screw driver icons represent removing screws (counter clockwise) and replacing screws (clockwise).



Trademarks

EZDV, EZ Edit, EZ Video, EZ Navi, and EZ Audio are trademarks of Canopus Corporation. i.LINK is a trademark of Sony Corporation. DirectDraw and IntelliMouse are trademarks of Microsoft. All other trademarks and registered trademarks belong to their respective owners.



Installation



This product is ***not*** intended for and should ***not*** be used for medical purposes, or with any equipment which might be used for life support.

Before Installation

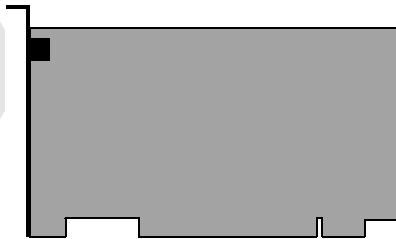
Make sure to read the following sections before installing the EZDV hardware and software. Please check to make sure you have a compatible system and your EZDV is installed and working properly.

Package Contents

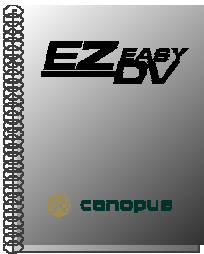
Make sure your package contains the following items:



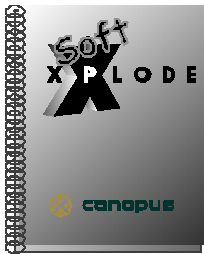
- EZDV PCI board
- EZDV Software CD
- EZDV Manual
- Registration card (in the manual)
- SmartSound CD
- SoftXplode Manual
- 4-pin i.LINK cable



EZDV PCI board



EZDV Manual



SoftXplode Manual



EZDV System Requirements



Make sure your computer system meets the following requirements:

- Pentium II 400MHz, Celeron 466MHz or over
Pentium III 500MHz or faster recommended
- CD-ROM drive
- 64MB RAM (128MB recommended)
- A hard disk with 4.5MB/sec sustained data transfer rate
- 50 MB free hard disk space
- Microsoft® Windows® 98, Windows® NT4.0* (Service Pack 4 or higher), Windows® 2000

*SoftXplode does not work under Windows NT.

Detailed Requirements

Graphics Board

To display and overlay video on the VGA monitor you need a graphics board that supports hardware DirectDraw and DirectDraw overlay.

Hard Disk requirements

When working with DV data, a high sustained data throughput is necessary. We recommend a dedicated hard disk with a sustained data transfer rate of at least 4.5MB/Sec for video. Popular video editing storage configurations include UltraATA33 drives, Ultra Wide SCSI controllers and Ultra Wide SCSI hard disks.

Testing your system for compatibility

The EZDV Software CD-ROM contains a utility called EZDVTest which will test your system for compatibility with EZDV.

Before installing EZDV hardware

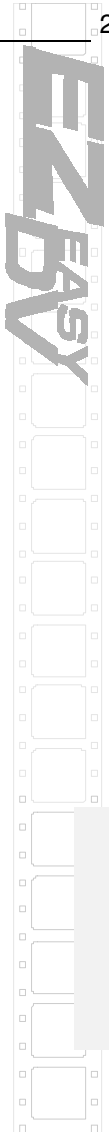
Please test your system for compatibility with EZDV by running EZDVTest, described in the next section.

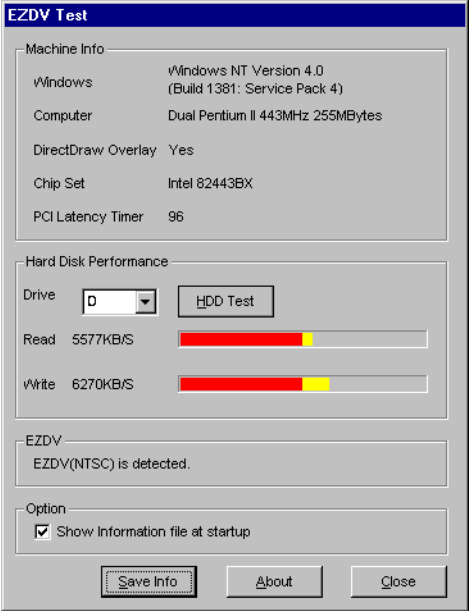
Test Your Hardware with *EZDVTest*

EZDV comes with EZDVTest software to profile your system. This program checks PCI BIOS version, motherboard chipset, hard disk speed, and graphics card capabilities. By running this small application you can make sure your computer meets the requirements of EZDV. Run EZDVTest before installing the EZDV board.

Running *EZDVTest*

1. Close all applications and utilities.
2. Insert the EZDV Software CD-ROM into your CD-ROM drive
3. Open Windows Explorer and navigate to the EZDVTest folder
4. Double-click EZDVTest.exe
5. The EZDVTest Readme file will appear, along with the EZDVTest window.





EZDVTest System Profile

Machine Info

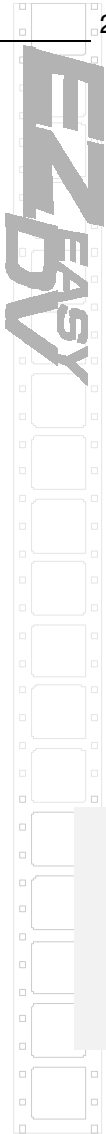
Displays information about your computer system. It shows the version of Windows you are running, as well as the type and speed of your CPU(s).

The items listed in Machine Info and their descriptions follow. Pay special attention to **DirectDraw Overlay**, **Chip Set** and **PCI Latency Timer**.

Windows version

Displays the version of Windows that is currently running.

EZDV supports Windows 98, Windows 98 Second Edition, Windows NT 4.0 (with Service Pack 4 or later), and Windows 2000.



Computer

Displays the type and speed of your CPU(s), as well as the amount of memory available to Windows (this number may be less than the amount of memory you have installed). If there is less than 60 MB available to Windows, you may encounter problems using EZDV. Close other open applications or add more memory to your system.

DirectDraw Overlay

Refers to your graphics card's ability to display a video window on the computer monitor.

If DirectDraw Overlay comes up No, try changing display resolution (1024x768 or higher), refresh rate (60Hz or higher), and/or color depth (16-bit or higher). Also make sure you are using the latest drivers for your graphics card.

If you cannot find a mode where DirectDraw Overlay is supported, you will have to replace your graphics card with a graphics card that supports DirectDraw Overlay (such as the Canopus Xplode card).

Chip Set

Displays the detected motherboard chip set. If your motherboard chip set cannot be detected, you may run into problems

PCI Latency Timer

Displays the current PCI Latency Timer setting. The PCI Latency Timer determines how long a PCI card can hold the CPU's attention before attention is passed to another card.

The PCI Latency should be set to 60 or higher. If it is lower than 64, you may encounter problems. Most BIOS configuration utilities allow you to change the PCI Latency Timer setting in the Advanced, Chipset, or PCI/PNP settings.

Hard Disk Performance

Displays performance measurements of your hard disk drive and rates it for use with EZDV.

Select the drive you want to test from the **Drive** drop-down. Click the **HDD Test** button to execute the hard drive test. Make sure no other programs are running while the test is being performed, as this may affect the results.

The measured read and write performance of your hard drive is listed in KB/Sec and by a colored bar.

The bar is split into three colors:

Red: The data transfer rate is below 4.5MB/Sec. This drive is not suitable for capture.

Yellow: The data transfer rate is between 4.5MB/Sec to 7MB/Sec. This drive has moderate performance and should be fine for capture.

Green: The data transfer rate is above 7MB/Sec. This is a high performance drive and should be fine for capture.

If your hard drive is not suitable for capture, you should get a faster hard drive dedicated for video storage, or you can possibly increase drive performance by using multiple drives in a RAID striped configuration.

Special note for IDE hard drive users

When using IDE video and system hard drives, we strongly recommend that your video drive(s) be on a separate IDE channel from your system drive. IDE does not allow for overlapped I/O, so if two hard drives are on the same IDE channel, only one can be accessed at any given time. Keeping your video drives on separate channels will give you optimal performance.

Special note for Windows NT users using IDE hard drives

Windows NT, by default, does not enable DMA transfers for IDE drives connected to the primary and secondary IDE controller. Thus, IDE performance under Windows NT is often much slower than in other Windows versions.

To enable DMA transfers for IDE drives under Windows NT, obtain the DMACHECK utility from Microsoft's support site and use it to enable DMA transfers.

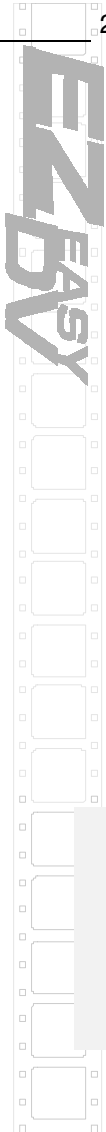
Note that if you have a separate IDE controller card, its drivers may already enable DMA transfers.

EZDV

Displays whether the EZDV board is detected, and if so, the video standard (NTSC or PAL) of the detected board.

Option

The "Show Information file at startup" box, if checked, will display the Readme for EZDVTest when EZDVTest is started.



Hardware Installation

This section contains instructions on how to install the EZDV hardware. Please follow the instructions below while installing the EZDV PCI card.



- The tools needed for installation.
1. A Phillips head screwdriver (star)
 2. Your PC's User's Manual



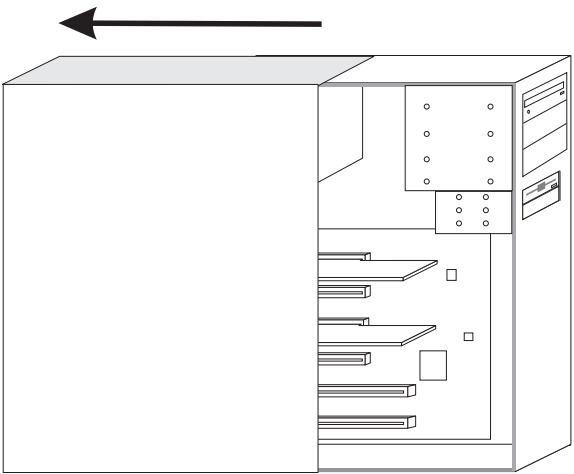
Caution: Static electricity can damage electronic components. Take care not to touch connectors or cards directly. When installing or working on your PC, first touch a grounded metal surface. This will discharge any static electricity on your body

STEP 1: Opening your PC Cover

1. Quit any applications you are using and shut down Windows.
2. Switch off your PC.
3. Remove your PC cover, as shown in your PC manual.



Remove computer cover



Preparation for EZDV installation

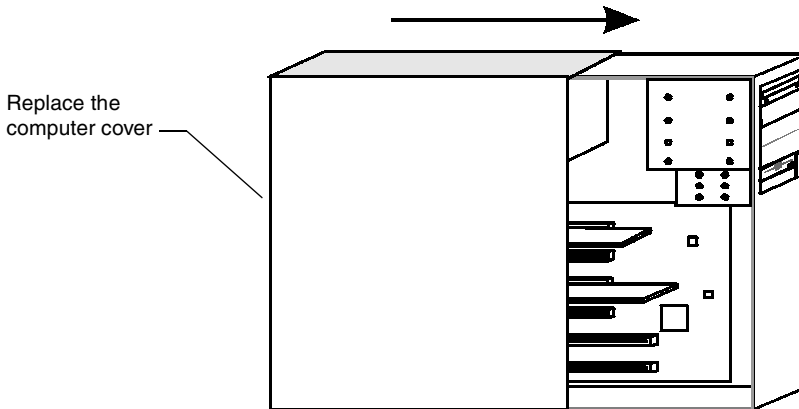
STEP 2: EZDV PCI card Installation

1. Find a free PCI slot (preferably NOT the PCI slot next to the AGP slot) and remove the protective bracket.
2. Remove the EZDV PCI card from the anti-static bag.



HANDLE THE CARD BY THE EDGES. AVOID TOUCHING THE CARD'S SURFACE

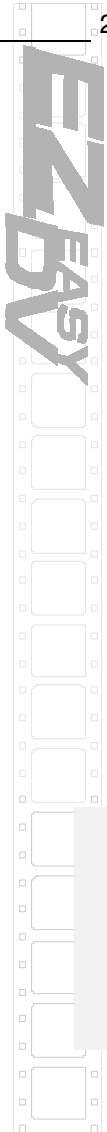
3. Gently push the card into the slot and screw it into place.



Replacing the computer cover

STEP 3: Checking Connections

After installing the EZDV card, check all your connections and replace the computer cover.



Before installing EZDV software

Please make sure your system is working properly and free of viruses.

Windows 98 Driver Installation

The first time you start Windows after installing the EZDV board, the **Add New Hardware** dialog will appear. Insert the EZDV software CD-ROM in your CD-ROM drive and point the Add New Hardware wizard to look in D:\Win9x (where D: is the letter of your CD-ROM drive). Follow the on-screen instructions to install the EZDV drivers.

After the EZDV drivers are installed, restart your system and follow the steps under Applications Installation later in this chapter to install the EZDV applications.

Windows 2000 Driver Installation

The first time you start Windows after installing the EZDV board, the **Add New Hardware** dialog will appear. Insert the EZDV software CD-ROM in your CD-ROM drive and point the Add New Hardware wizard to look in D:\Win2k (where D: is the letter of your CD-ROM drive). Follow the on-screen instructions to install the EZDV drivers.

After the EZDV drivers are installed, restart your system and follow the steps under Applications Installation later in this chapter to install the EZDV applications.

Windows NT 4.0 Driver Installation

There is no driver installation necessary for Windows NT 4.0. Please install the EZDV applications by following the steps under Applications Installation later in this chapter.



Applications Installation

To install the EZDV applications, insert the EZDV CD-ROM into your CD-ROM drive, open the App folder, and run Setup.exe by double-clicking the icon. The EZDV setup application will appear. Follow the prompts to install EZ Edit, EZ Audio, EZ Video, and EZ Navi.

Bundled Applications Installation

SmartSound for Multimedia

Insert the SmartSound CD-ROM into your CD-ROM drive and run Setup.exe by double-clicking the icon. The SmartSound for Multimedia installer will appear. Follow the prompts to install SmartSound for Multimedia. The SmartSound for Multimedia manual is included on the CD as a PDF document.

SoftXplode

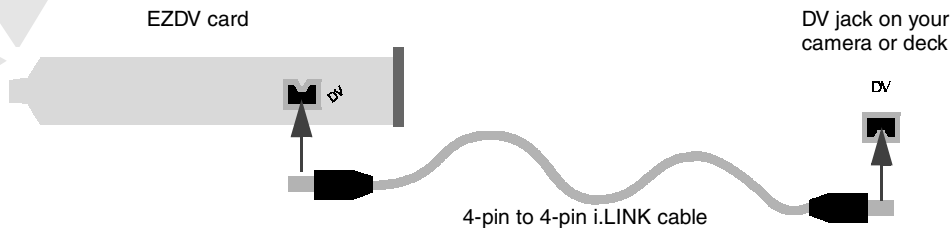
The EZDV installation application will install SoftXplode under Windows 98 and Windows 2000. Please make sure you have DirectX 6.1 or higher installed on your system. If you do not have DirectX 6.1 or higher, you can find the DirectX installer on the EZDV software CD.

SoftXplode does not support Windows NT. For Xplode effects in Windows NT, you need to purchase the Xplode hardware.

Connecting your DV camera or deck

Connect your camera or deck to your EZDV using the provided 4-pin to 4-pin i.LINK cable. Plug one end of the cable

into your camera or deck's i.LINK jack, and plug the other end of the cable into EZDV's i.LINK jack.



If you are connecting a DV camera, make sure it is in VTR mode, and not Camera mode.



Quick Start - Your First Editing Project

Basic steps in video production

To help you learn the EZDV software quickly, this chapter will take you through the steps necessary to do a simple editing project. For more detailed explanations of the programs and procedures in this chapter, please refer to the individual chapters on EZ Video, EZ Navi, EZ Audio and EZ Edit.



Watch for the info check symbol throughout the chapter. It will tell you where to look for further information on the steps described.

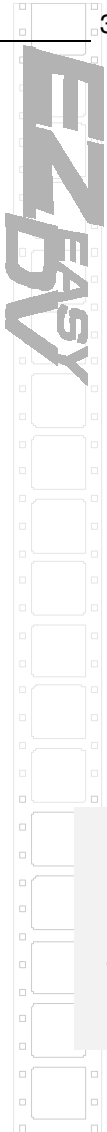
For this quick start tutorial, you will need the following items:

1. DV or Digital 8 camera or deck connected to EZDV and in VTR mode.
2. A DV or Digital 8 tape (whichever is appropriate to your device) with some video footage on it (a few minutes at least).

The video editing process involves three steps - Acquisition, Editing, and Output.

Acquisition

The first step in starting an editing project is to gather video and audio material to edit. This is the acquisition stage, where raw footage is viewed and usage pieces of video (clips) are identified and transferred (captured) to the computer's hard disk.



EZDV can be used with DV and Digital 8 digital video sources. You can identify and capture video clips by using EZ Navi, or by using EZ Video and EZ Edit.

The various acquisition methods are further explained in the individual chapters for each application.

For this tutorial, we will use EZ Video Batch capture to capture a few clips and EZ Audio to capture some audio clips.

If your DV or Digital 8 tape is not in your camera or deck, please insert it now.

Batch capture footage in EZ Video



Batch, Seamless, and Manual capture are documented in the EZ Video chapter.

You can also use EZ Navi to automatically identify clips and create a capture list for batch capture in EZ Video. Please see the EZ Navi and EZ Video chapters for more information.

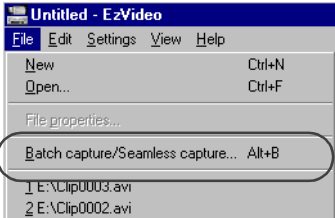
We will use batch capture in EZ Video to capture a video clip. Follow the following steps to batch capture video in EZ Video.

- 1. Open EZ Video
- 2. Click the **Batch capture/Seamless capture** button on the EZ Video toolbar or choose **Batch capture/Seamless capture** from the File menu.

Click the Batch capture/Seamless capture button

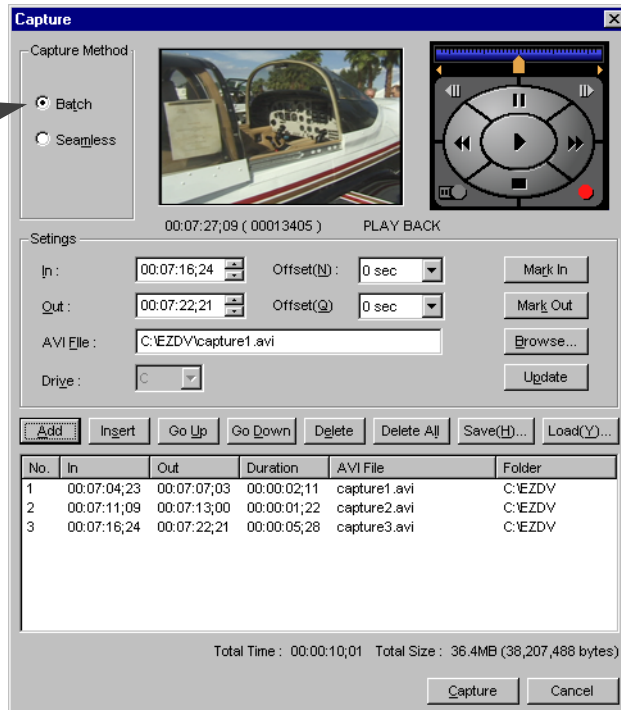


Or choose Batch Capture/Seamless capture from the File menu



3. The Batch capture/Seamless capture window will appear. Make sure the **Capture Method** is set to **Batch** for batch capture.

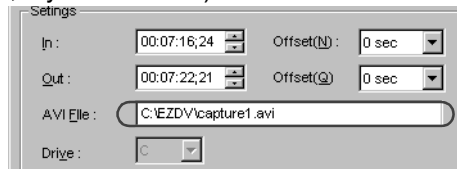
Make sure this is set to Batch



Batch capture/Seamless capture window

4. Set a filename for the clip you want to capture. For this tutorial, we will create a file called **D:\DemoCapture1.AVI** (substitute D:\ with the letter of your video drive, if you have one).

Set AVI filename to DemoCapture1.AVI

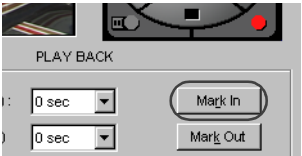


- 5. Use the Deck controller to position the tape at the start of where you want to capture.



Position the tape at the start of where you want to capture by using the Deck controller.

- 6. Click the **Mark In** button. The In point will be entered automatically.



- 7. Advance the tape a few minutes.

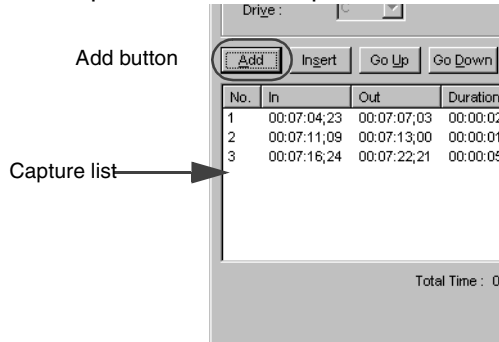


Position the tape at the end of where you want to capture by using the Deck controller.

- 8. Click the **Mark Out** button. The Out point will be entered automatically.



- Click the **Add** button to add the selected clip to the capture list. The clip will appear in the list on the bottom of the Batch capture/Seamless capture window.



- Repeat steps 5-9 for another clip. EZ Video will automatically increment the filename for you.
- Click the **Capture** button to begin capture. EZ Video will capture the selected clips to your hard disk.

You should have two AVI files on your hard disk - **DemoCapture1.AVI** and **DemoCapture2.AVI**. Remember where you saved these files, you'll need them for the editing part of the tutorial.

SyncCapture Audio in EZ Audio



SyncCapture and Manual capture are documented in the EZ Audio chapter.

Now we'll use EZ Audio to capture some audio from our DV tape.

We will use SyncCapture, which allows you to capture audio from a specific point on the tape. Follow the steps below to SyncCapture some audio.

- Position the deck at the start of the segment you want to record by using the Deck controller. Choose a segment after the video that you captured in the previous step.

Position the tape at the start of where you want to capture by using the Deck controller.



2. Click the **SyncCapture** button on the WAV controller.

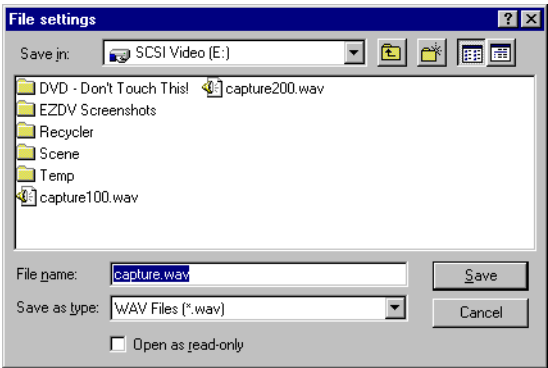


REC PAUSE will flash in the WAV info display. Click the **Play** button on the WAV controller to start SyncCapture.



If you do not have **Set new filenames automatically** checked and have not already set a filename, a dialog will appear to ask you for the filename to use for the captured video.

If this window appears, give the clip a name and save it on your video drive



For this tutorial, name the file **D:\DemoMusic.WAV** (substitute D:\ with the letter of your video drive, if you have one).

3. The DV deck will start playing and the computer will start capturing. Let it capture for a few minutes, then click the **Stop** button on the WAV controller to stop capture.



Now you have a WAV audio file on your computer. Remember where you saved it - you will need it for the next part of the tutorial.

Editing in EZ Edit



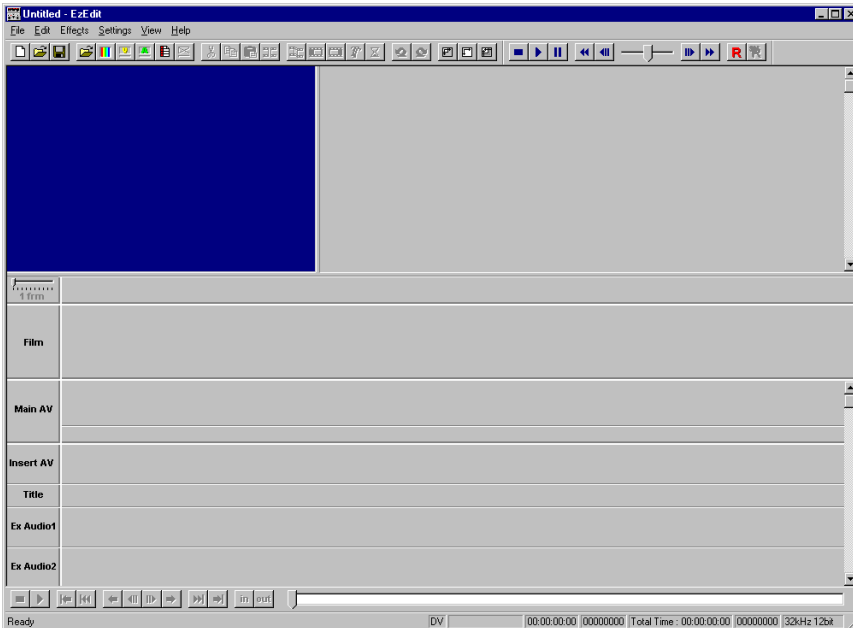
You can capture video from EZ Edit as well. See the EZ Edit chapter for more details.

This portion of the tutorial will familiarize you with EZ Edit. For more detailed information, please refer to the EZ Edit chapter.

Now that you have acquired your footage, you can begin editing your clips. You should also start thinking about any graphics or special effects you want to add to your project.

Starting EZ Edit

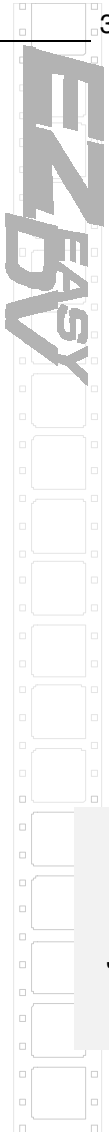
Open EZ Edit by choosing it from the EZDV program group in the Start menu.



EZ Edit

Setting the Temporary Drives

The temporary drives are where rendered (processed) effects are stored. It is important that rendered effects are

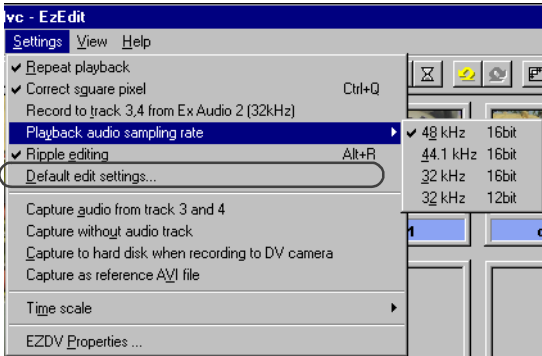


stored on a video-capable drive, or they may not render correctly.

Before starting to edit, you need to make sure the temporary drives are set to your video hard disks.

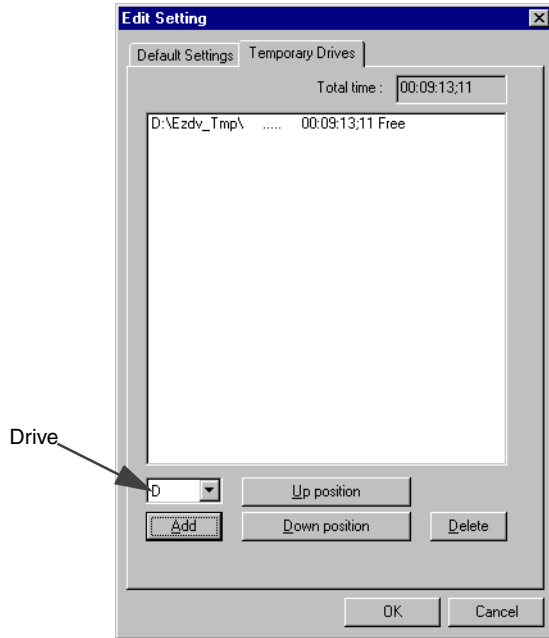
To set the Temporary drives, follow these steps.

- 1. Open EZ Edit.
- 2. Choose **Default edit settings...** from the Settings menu.



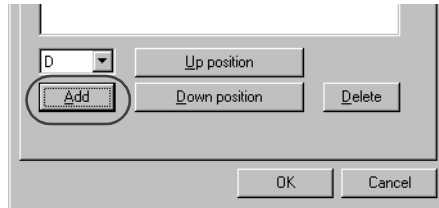
Choose Default edit settings from the Settings menu

3. In the Default settings dialog, select the **Temporary Drives** tab.

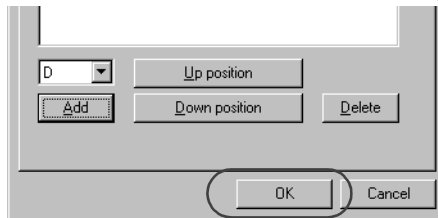


Temporary Drives setting

4. Select your video drive from the Drive drop-down.
5. Click the **Add** button. The drive you specified will appear in the list. If you have multiple video drives, you can add them here and as each gets filled, the next one will be used.



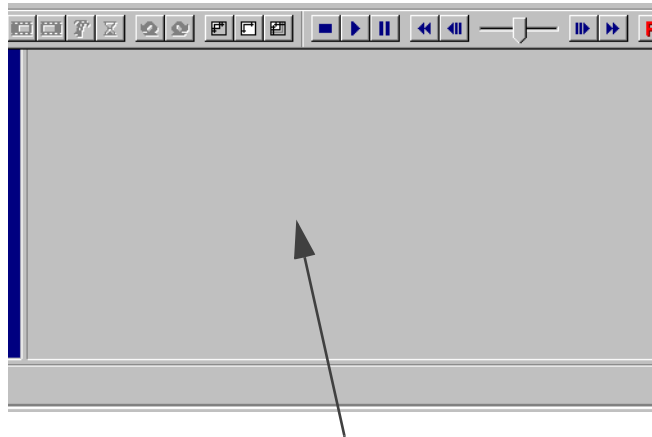
6. Once you set the temporary drives, EZ Edit will remember the setting until you uninstall or reinstall the software. Click the **OK** button to close the settings dialog.



Loading clips to edit

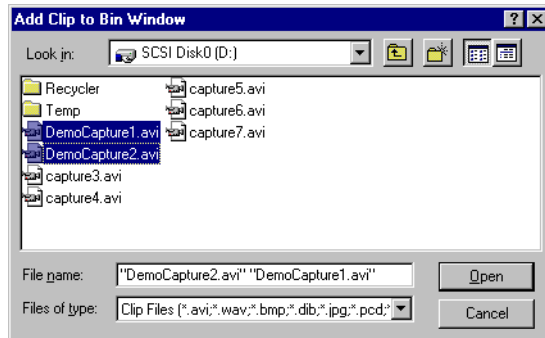
Now that your temporary drives are set, we can proceed to load clips to edit.

1. Double-click the mouse in the DV Bin to bring up the **Add clip to bin window** dialog.



Double-click in the DV Bin

The Add Clip to Bin Window dialog will appear.

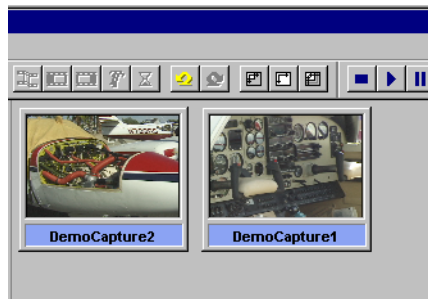


2. Locate the two video we captured - **DemoCapture1.AVI** and **DemoCapture2.AVI**.

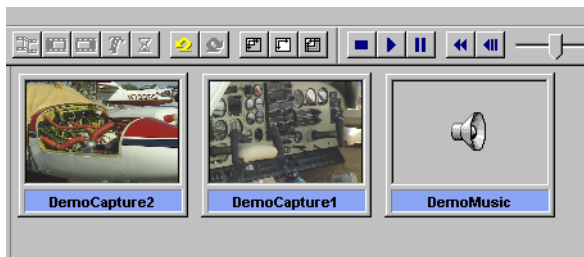


The color of clips in the bin represent their audio rates.
Blue = 48 kHz 16-bit
Green = 44.1 kHz 16-bit
Yellow = 32 kHz 12-bit

3. Select them and click the **Open** button. They will appear in the DV Bin.



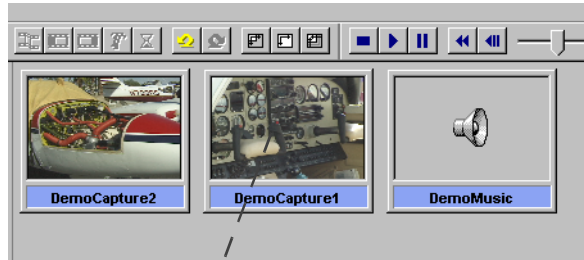
4. There will be two clips listed in the DV Bin. If your clips have 48 kHz audio, the name will have a blue background, if they have 44.1 kHz audio, they will have a green background, and if they have 32 kHz audio, they will have a yellow background.
5. Load the **DemoMusic.WAV** file created that we captured earlier using the same steps above.
6. Now you should have three clips in the DV Bin.



Adding clips to the timeline

In order to edit our video, we need to put our clips on the timeline.

1. Drag **DemoCapture1.AVI** from the DV Bin on to the Main AV track.



The color of clips in the timeline represent their audio rates.

Blue = 48 kHz 16-bit

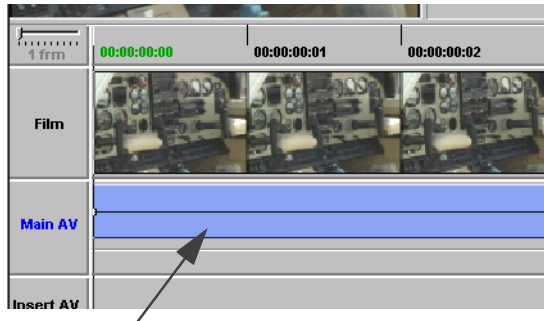
Green = 44.1 kHz 16-bit

Yellow = 32 kHz 12-bit

Purple = still image (no audio)

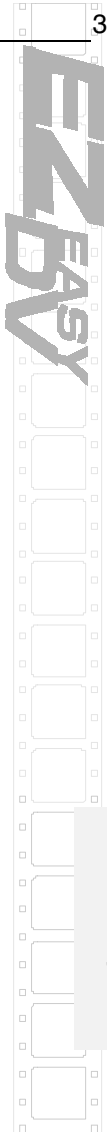
Drag DemoCapture1.AVI from the DV Bin to the Main AV track

We now have a clip on the Main AV track.

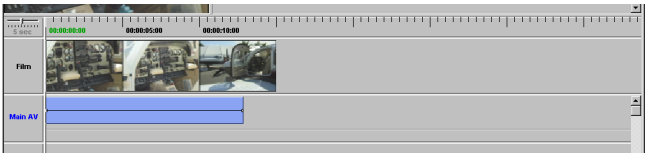
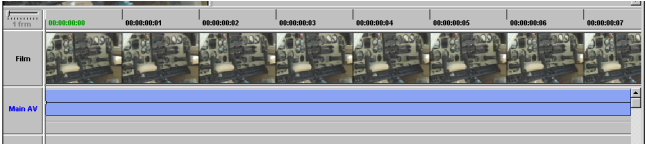
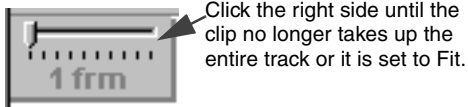


DemoCapture1.AVI clip

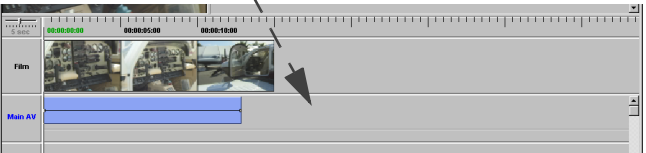
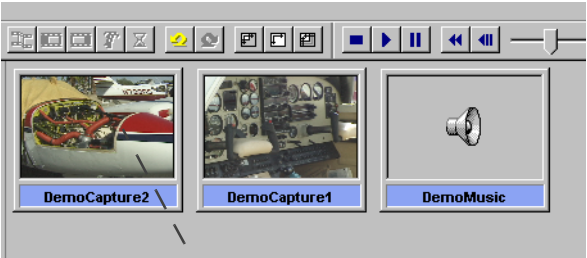
2. Before we proceed, we should adjust the time scale of the timeline so we can see more of our project. Click on the right side of the Timescale slider to change the



timeline units. Keep clicking on it until your clip does not take up the entire Main AV track or it is set to Fit.



3. Drag **DemoCapture2.AVI** from the DV Bin to a position to the right of the existing clip on the Main AV track.



4. You should now have two clips on the Main AV track of the timeline.



As you can see, EZ Edit places the two clips right next to each other. The Main AV track does not allow for empty space between clips. All clips are pressed up against each other.

The vertical line in the Timeline is the timeline cursor. The image in the video window is the video at the frame where the timeline cursor is.

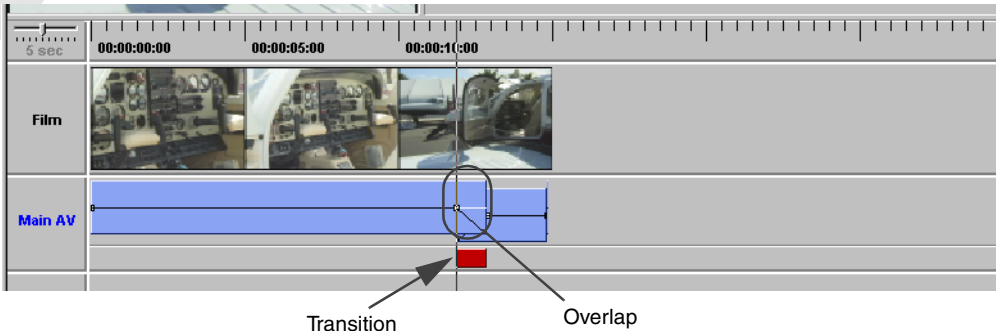
Adding transitions between clips

1. Now we will add a transition between the two clips in the timeline. Move the timeline cursor to the point where the two clips meet by clicking and dragging the mouse in the time area.
2. Click the **Add transition** button on the toolbar. This will add the default transition (1-second dissolve) between the two clips.

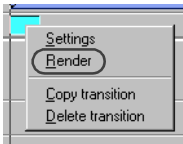


EZ Edit includes multiple transitions - see the EZ Edit chapter for more details.

The two clips on the timeline will overlap each other, and a block will appear under the overlap.



- In order to view the transition, we need to render it. Right-click the transition and choose **Render**.



- EZ Edit will render the transition, and it will change color from red to blue, indicating that it has been rendered.



Rendered transition

- The timeline cursor will be placed at the beginning of the transition. Hit the Spacebar on the keyboard or click the **Play** button on the AVI controller to play the time-

line.

Hit the space bar, or press the Play button

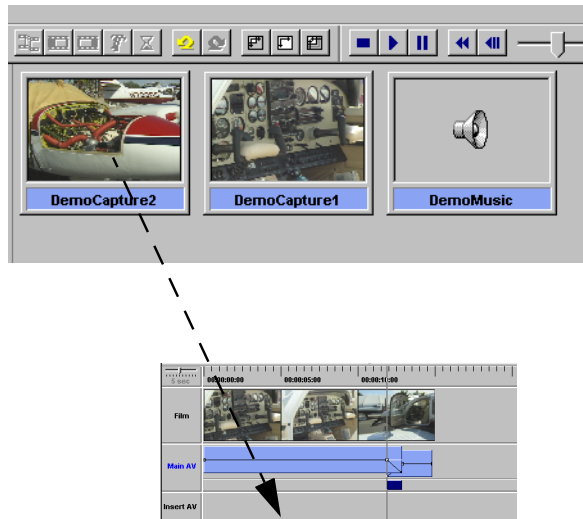


You can see that the transition between the clips plays. Also notice that the audio from the first clip fades out while the audio from the second clip fades in. EZ Edit did this automatically when it added the transition between the clips.

Adding an Insert cut away

The Insert AV track allows you to cut away to a separate piece of video, then cut back.

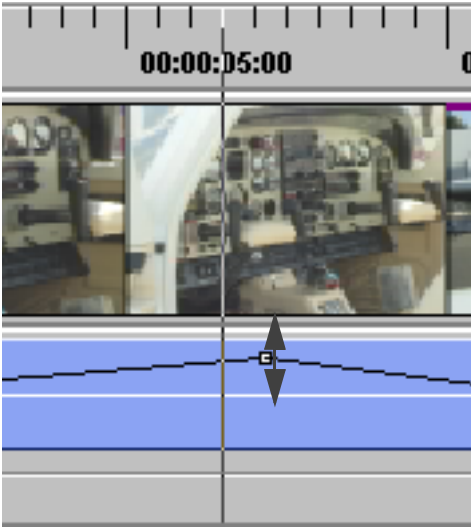
1. Drag **DemoCapture2.AVI** from the DV Bin to the Insert AV track, under the first clip on the Main AV track.



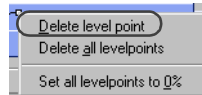
2. Play the timeline (Space bar, or click the **Play** button on the AVI controller). Notice how the video switches to the Insert AV clip when the timeline cursor passes over it. Also note that the audio from both the underlying Main AV clip and the Insert AV clip play. You can use Insert AV cuts to add video to a “talking head” while keeping the audio from both clips.

Adjusting Audio levels

The line in the middle of the clip represents its volume level. To adjust the audio levels of your clips, click on the line to add a node, then drag the node up or down to adjust the level.



To delete an audio node, right-click on it and choose Delete level point.



Adding a Title

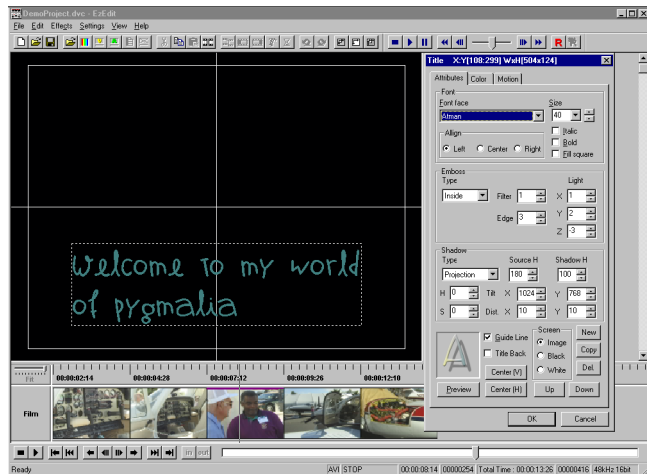
You can add titles that will appear over video on the Title track.

Follow the steps below to create a simple title.

1. Add a title by clicking the **Add title/Edit title** button on the toolbar.



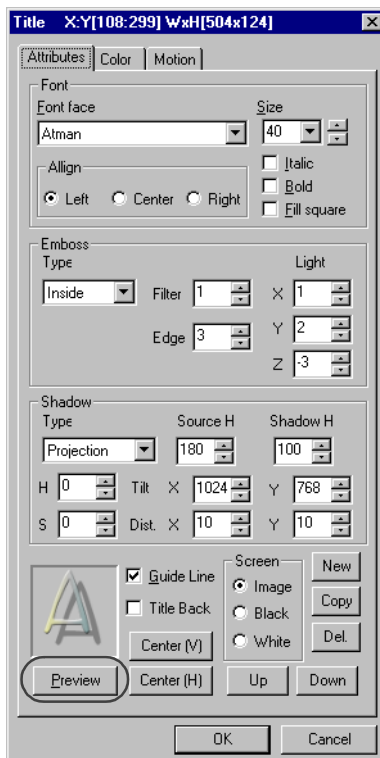
2. The interface will switch to Title mode.



Titling interface

3. Type some text. It will appear on the screen.

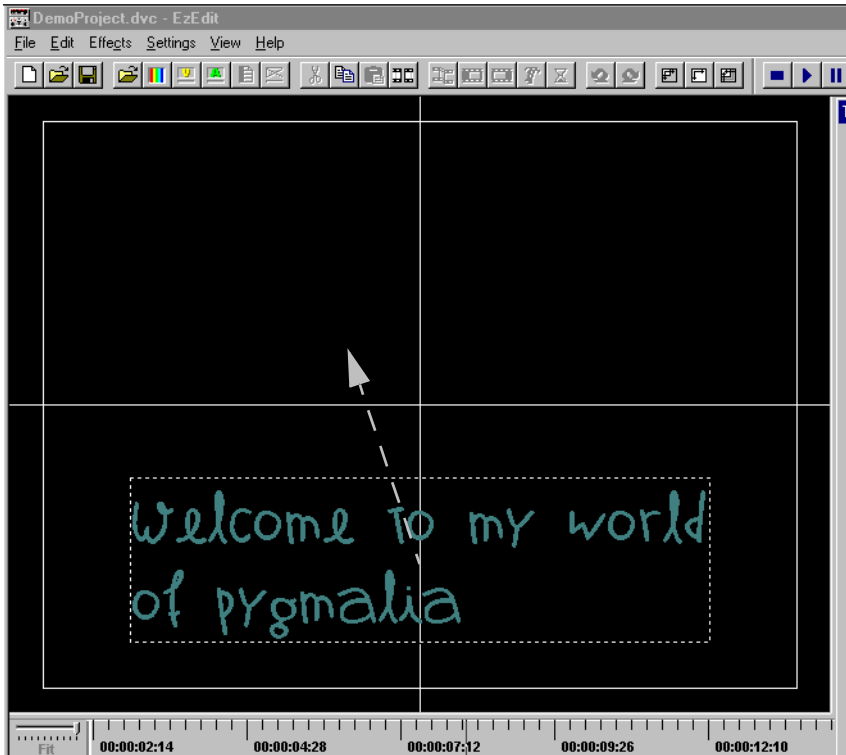
- Press the **Preview** button to see what the title will look like over video.



- To position the title on the screen, click off of the title to stop entering text, then click and drag it to the desired

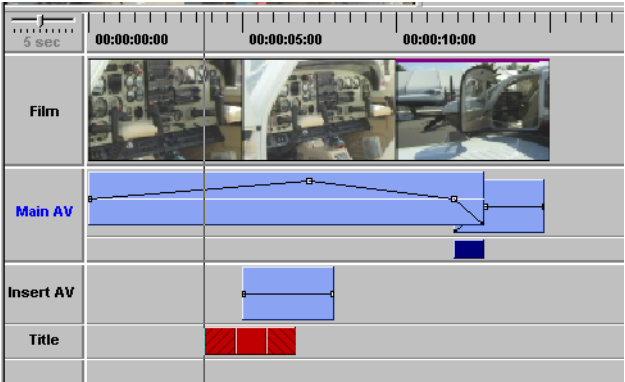
position.

Click and drag to position the title.



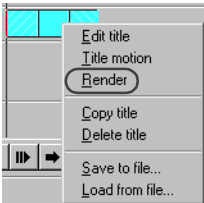
You can set many aspects of the title such as shadow, edge, color, and motion in the Attributes, Color, and Motion tabs. These features are described in more detail in the EZ Edit chapter.

6. Click **OK** to accept the title and close the titling interface. The title appears on the Title track.

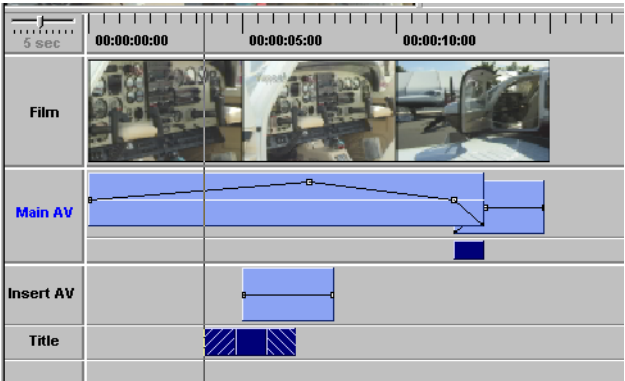


Adding a title

7. Before you can see the title in the video, you need to render it. Right-click the title and choose **Render** from the menu.



8. The title will change color from red to blue to signify that it has been rendered. You can now play the timeline and see the title in the video.



The title we created was just a simple title that dissolves in and out. The Motion tab of the Title dialog has options you can change to have titles slide, wipe, and do various other things.

Outputting your Production to Tape

The final step in editing your video is to output your completed production back to tape. Output to tape can be done in EZ Edit and EZ Video. For this tutorial, we will output directly from EZ Edit, as this is the most convenient way to do it.

The following steps will output your timeline to tape.

1. Verify that all transitions and titles have been rendered. There should be no red blocks on the timeline. If one or more items are not rendered, you can click the **Render all effects on time line** button in the toolbar to render them all.

Click the Render all effects button if it is not grayed out



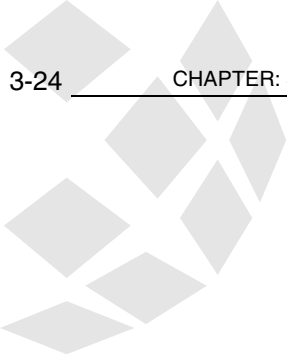
2. Insert a blank tape into your DV device. Make sure it is not write-protected.
3. Click the **SyncRecord** button on the Deck controller.



EZ Edit will rewind the tape, then record the timeline to the tape.

This is the end of the Quick Start - Your First Editing Project chapter.

The EZDV applications have many more features than were discussed in this simple tutorial. Please take some time to go through the chapters on each application to learn about all their features.





EZ Video

Introducing EZ Video

This chapter will introduce you to EZ Video, the video capture and output component of the EZDV software.

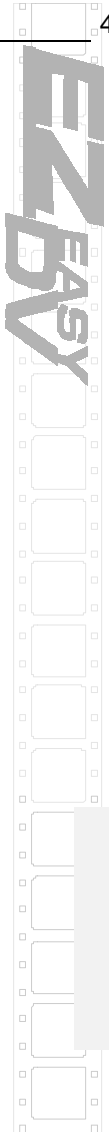
The features of EZ Video will be described to familiarize you with its functions.

EZ Video Interface

The EZ Video application allows you control your DV or Digital 8 camera or deck to both capture video and record video back to tape. It provides playback of video on the computer screen, camera/deck control, capture, and output capabilities.

The EZ Video window consists of eight main sections:

1. **Toolbar** - includes shortcut buttons for commonly used menu items
2. **Video area** - shows the video coming from, or going out to, your DV or Digital 8 device. Playback of DV AVI files also appears here.
3. **File and Deck information area** - displays information about the currently loaded AVI file and the status of the DV device.
4. **AVI controller** - contains buttons to control playback of the loaded AVI file, a button to start capture from the connected DV device, buttons for trimming, and a slider to scrub through the video.





5. Audio level meters - displays the audio level during playback and capture of video. Available in Full size preview only.
6. Deck controller - contains a shuttle slider and controls for playback of the connected DV device. There are also SyncRecord and Record buttons to start recording on the connected DV device.
7. Play list - contains a list of clips (AVI files) that you can have EZ Video play in sequence using List Play mode. You can use the Play list to do simple assemble editing to arrange your clips for import to EZ Edit.
8. Status bar - lists information about the DV device, play list, and also displays the function of the button the mouse cursor is over.

Capturing Video

Before you can edit your video, you need to capture (transfer) the video to your computer.

EZDV captures video in the Microsoft AVI format using the Canopus DV CODEC. The compression rate is fixed, so 4 GB of storage will hold about 18 minutes of video, and 13 GB will hold about one hour of video.

You can capture video in one of three ways in EZ Video - manual capture, batch capture, and seamless capture.

Manual Capture

Capturing video to your computer can be as simple as clicking **Play** on the Deck controller and clicking **Capture** on the AVI controller.

Click the Play button to start the deck playing



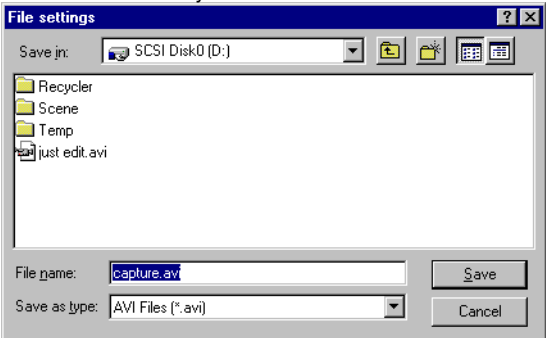
Then click the Capture button



If you do not have **Set new filenames automatically** checked and have not already set a filename, a dialog will

appear to ask you for the filename to use for the captured video.

If this window appears, give the clip a name and save it on your video drive



Make sure that you capture to your video hard drive, if you have one. When you want to stop capturing, click the **Stop** button on the AVI controller.

Click the Stop button when you are done



Batch Capture

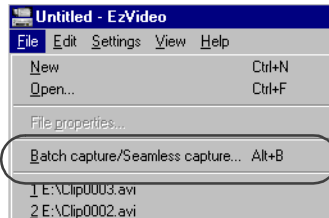
Batch capture allows you to mark and capture only the segments of video that you want.

To bring up the Batch Capture window, click the **Batch capture/Seamless capture** button or choose **Batch capture/Seamless capture** from the File menu.

Click the Batch capture/Seamless capture button

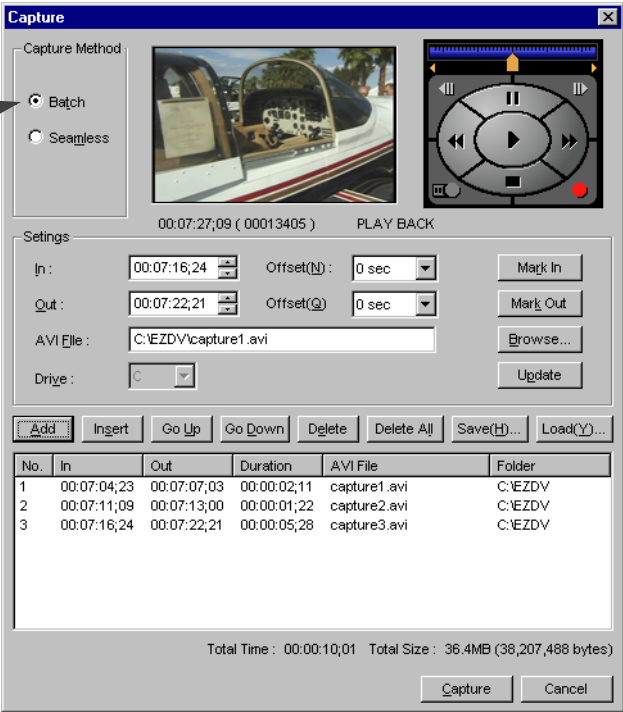


Or choose Batch Capture/Seamless capture from the File menu



The Batch capture/Seamless capture window will appear.

Make sure this is set to Batch



Batch capture/Seamless capture window

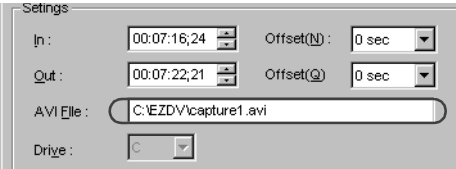
Make sure the **Capture Method** is set to **Batch** for batch capture.

Batch capture involves marking segments of video, creating a capture list, and capturing all the clips in the batch.

Batch capturing clips:

1. Set a filename for the clip you want to capture. If you have a dedicated video drive, make sure you are capturing to it.

Set AVI filename



2. Use the Deck controller to position the tape at the start of where you want to capture.



Position the tape at the start of where you want to capture by using the Deck controller.

3. Click the **Mark In** button. The In point will be entered automatically.



4. Advance the tape to the end of where you want to capture.

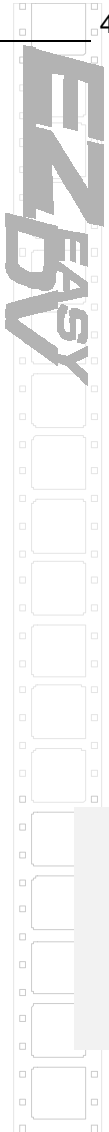


Position the tape at the end of where you want to capture by using the Deck controller.

5. Click the **Mark Out** button. The Out point will be entered automatically.

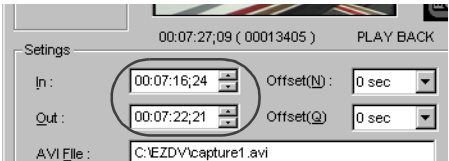


6. The In and Out points you marked will be entered in the In and Out boxes. If you want to change the In or Out

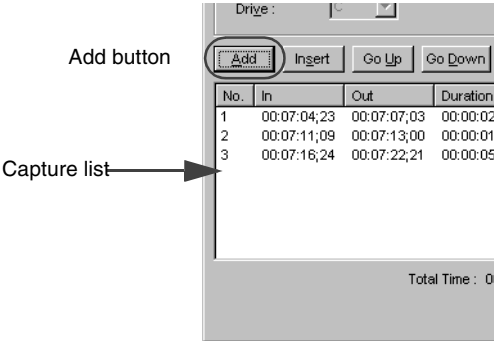


point, you can change the numbers in the In and Out boxes.

In and Out point settings



- 7. Click the **Add** button to add the selected clip to the capture list. The clip will appear in the list on the bottom of the Batch capture/Seamless capture window.

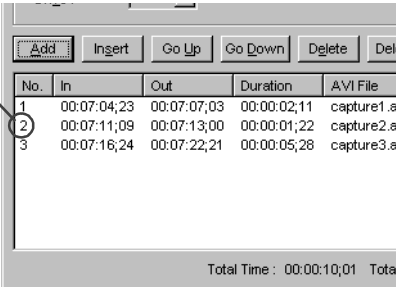


- 8. Repeat steps 2-7 for additional clips you want to capture. EZ Video will automatically increment the filename for you.
- 9. Click the **Capture** button to begin capturing your capture list.

Changing, Saving, and Loading Capture lists

- 1. Select a capture list entry by clicking on the number to the left of the entry.

Click the number at the left of the entry to select it

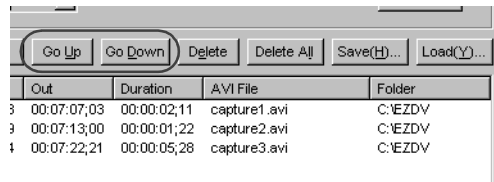


2. You can change a capture list entry's In and Out points by selecting it, changing the In and Out points, and clicking the **Update** button.



Click the Update button to change an entry's In and Out points

3. To change the position of a capture list entry, select it and click the **Go Up** or **Go Down** buttons. Sometimes it is helpful to re-arrange clips if you have marked them in a different sequence than in which they occur on the tape.



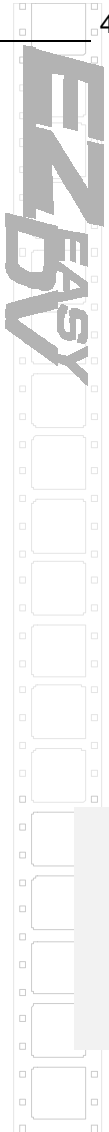
4. To delete a clip from the list, select it and click the **Delete** button.



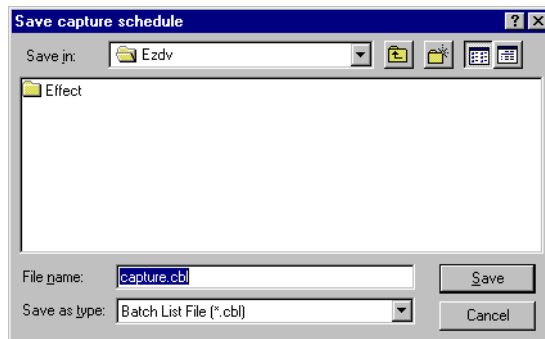
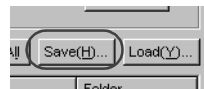
5. To delete all entries from the list, click the **Delete All** button.



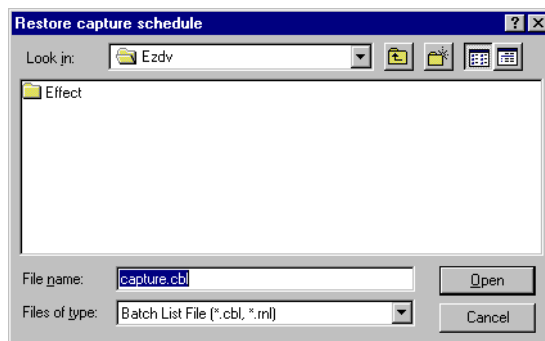
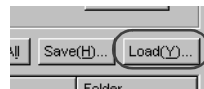
6. You can save the list of clips to a capture list file by clicking the **Save** button. A dialog will appear to let you name the file. It is useful to save capture lists for



projects in the event you need to recapture clips from the master tape in the future.



7. You can load a list of clips from a capture list file by clicking the **Load** button. Locate the capture list file you want to load and click **Open**. The list will appear in the capture list.



8. After capture is complete, the clip(s) will appear in the Play list.

Important note about Timecode

If your tape has discontinuous timecode, or timecode that repeats the same value, you may have problems using

batch capture. EZ Video may not be able to find the in frame if it scans beyond the current set of timecode.

Thus, it is very important to keep timecode continuous on your tape. It is a common practice to “black” or “stripe” new tapes by recording black over the entire tape in one pass to establish continuous timecode.

Timecode is normally reset when the tape is removed from the camera. If you have to remove and reinsert a tape without timecode while recording, after reinserting the tape, rewind it to a point where there is timecode, and continue recording from that point.

Also, it is good practice to record 10-20 seconds of black “leader” at the beginning of each tape.

Seamless capture

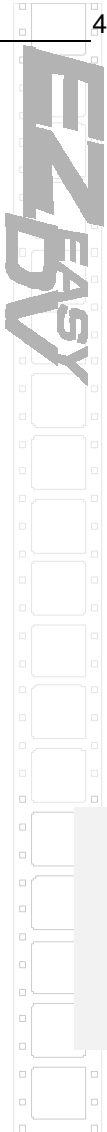
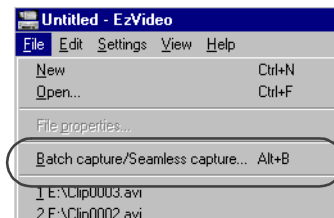
Seamless capture allows you to capture a segment of video as a series of separate AVI files. Seamless capture is useful when you need to take AVI files to other programs and to split a captured segment across drives or directories.

To bring up the Seamless Capture window, click the **Batch capture/Seamless capture** button or choose **Batch capture/Seamless capture** from the File menu.

Click the Batch capture/Seamless capture button



Or choose Batch Capture/Seamless capture from the File menu

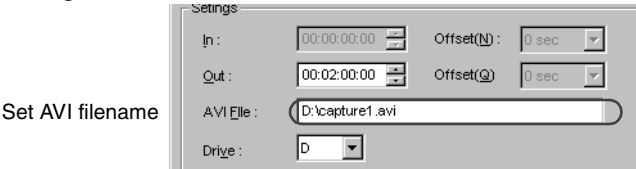


The Batch capture/Seamless capture window will appear.



Batch capture/Seamless capture window

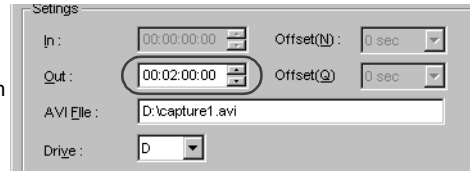
1. Set a filename for the clip you want to capture. If you have a dedicated video drive, make sure you are capturing to it.



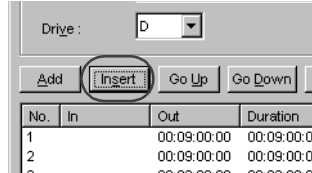
2. Determine the length of the clip you want to capture, subtract one frame, and enter this value (in hours, minutes, seconds and frames) in the Out box. The one

frame subtraction is necessary since the first frame captured is 00:00:00;00.

Set capture length



3. Click the **Insert** button. The filename and duration will appear in the clip list.

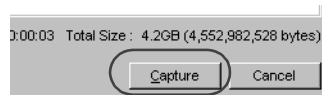


4. If you wish to add more time (files) to the capture, repeat steps 2-3. EZ Video will automatically increment the filename for you.
5. Use the Deck controller to position the tape slightly before the start of where you want to capture.



Position the tape slightly before the start of where you want to capture by using the Deck controller

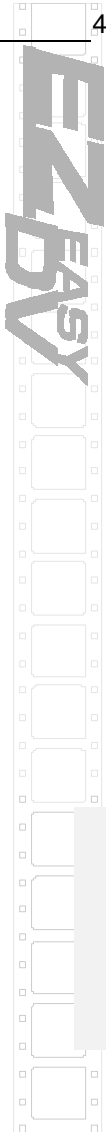
6. Click the **Capture** button. Capture will begin and the video will be captured to the file(s) you specified in the capture list.



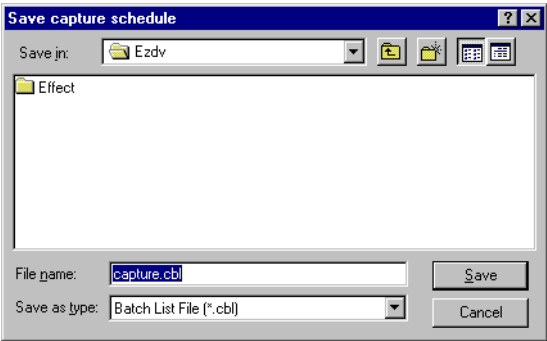
7. After capture is complete, the clip(s) will appear in the Play list.

Changing, Saving, and Loading Capture lists

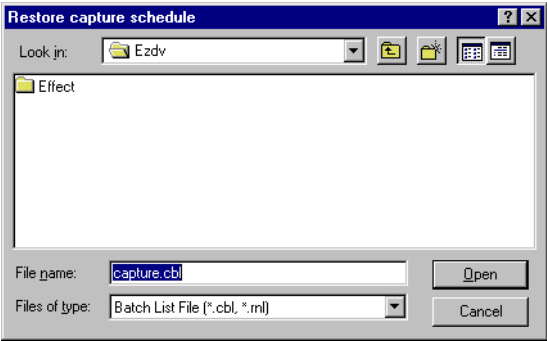
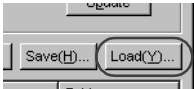
You can save the list of clips to a capture list file by clicking the **Save** button. A dialog will appear to let you name the



file. It is useful to save capture lists for common times and clip lengths.



- 8. You can load a list of clips from a capture list file by clicking the **Load** button. Locate the capture list file you want to load and click **Open**. The list will appear in the capture list.

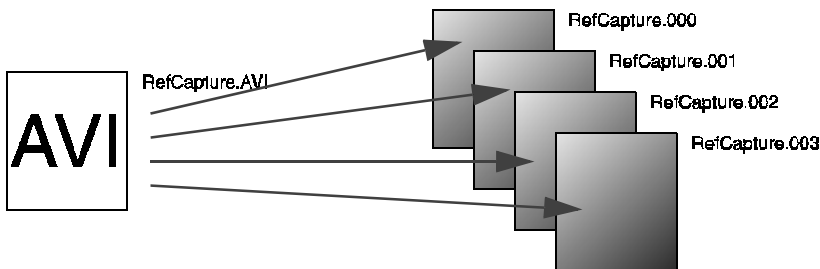


Reference AVI files and the 2-gigabyte AVI filesize limit

Standard AVI files have a size limitation of 2 gigabytes. This corresponds to slightly over 9 minutes (depending on audio sampling rate) of video captured using EZDV.

EZDV overcomes this limitation with Reference AVI technology. Reference AVI files are small AVI files that “point” to other files that contain the actual video data.

When capturing a Reference AVI file, the system makes as many 4 gigabyte data files as necessary, then creates a single AVI file that references those data files.



caution

Reference AVI files maintain absolute paths to their data files. This means that it remembers the entire drive and directory path to the data files. **Do not move the data files of a Reference AVI!** If the data files are moved, the Reference AVI will not play back properly.



info check
To capture AVI files as reference AVIs, check the **Capture as reference AVI** option in the Settings menu.

Any AVIs captured while **Capture as reference AVI** is checked will be captured as Reference AVIs.

If you try to capture a single AVI file that is larger than 2 gigabytes (about 9 minutes), you must use capture as Reference AVI. Alternatively, you can capture multiple 2 gigabyte or smaller clips using Batch capture or Seamless capture.

It is also possible to make Reference AVI files from another AVI file. In this case, the new AVI file will point to the original AVI file or the original Reference AVI data file(s), if the original AVI file is a Reference AVI file itself. Also in this case, if the original (referenced) AVI file is moved, the Reference AVI file that points to it will not play back properly.

Working with Captured Clips

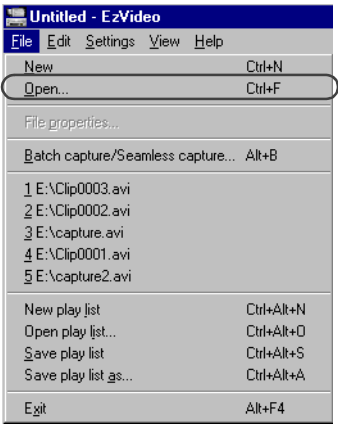
Loading clips

To load a clip into the video window, click the **Open file** button, or choose **Open file** from the File menu.

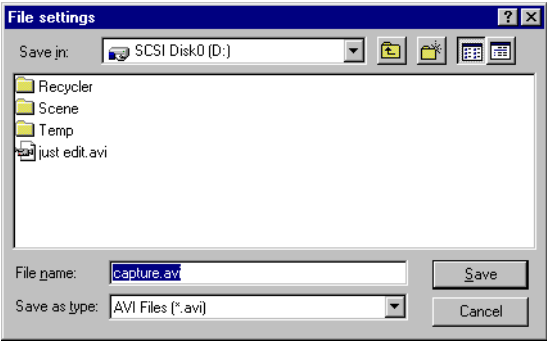
Click the Open file button on the toolbar



Or choose Open... from the File menu



Locate the file you want to load. Keep in mind that only AVI files created with EZDV can be loaded.



The AVI file will load and appear in the video window.

Playing and Scrubbing Video

You can play and scrub (quickly move through) video using the playback buttons and the scrub bar slider on the AVI controller.

Drag the slider to the left or right to scrub through the video in the AVI.

The blue shaded area represents the area between the In and Out point marked on the clip. See the following section on using the Play list for more information on In and Out points of clips.

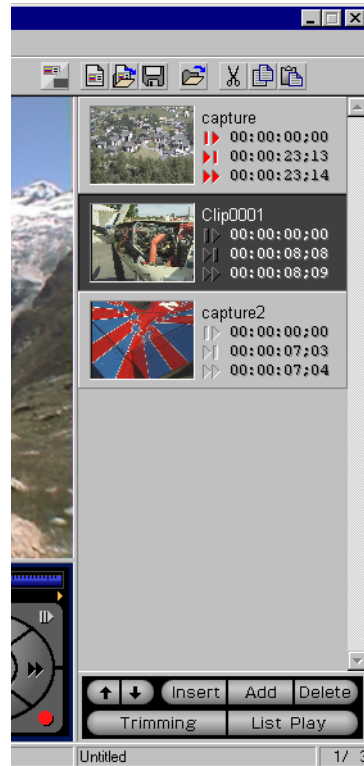


To move frame-by-frame through video using an Intellimouse (or compatible), pause playback and roll the wheel down to step forward, and roll the wheel upward to step backward.

To shuttle through video using an Intellimouse (or compatible), pause playback and click the wheel to go into Shuttle mode. Roll the wheel down to shuttle forward. Roll the wheel up to shuttle in reverse. The shuttle speeds are: 1/4 speed, 1/2 speed, 1x speed, 2x speed, 4x speed, 8x speed, 10x speed, 20x speed, and 40x speed.

Using the Play list

The Play list is located on the right side of the EZ Video window.



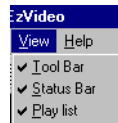
The Play list

If the Play list is not visible, click the **Play list** button or choose **Play list** from the View menu.

Click the Play list button to show the Play list



Or choose Play list from the View menu



You can use the play list to arrange a number of clips and play them together back-to-back.

Adding, Inserting, and Deleting clips in the Play list

To add the current clip you are viewing to the Play list, click the **Add** button on the Play list control. The current clip will be added to the end of the Play list.

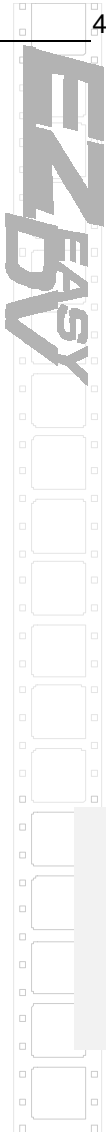
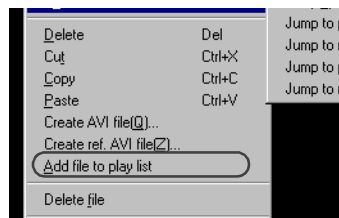


You can also add clips directly to the Play list by clicking the **Add file** button on the Play list side of the toolbar or by choosing **Add file to playlist** from the Edit menu.

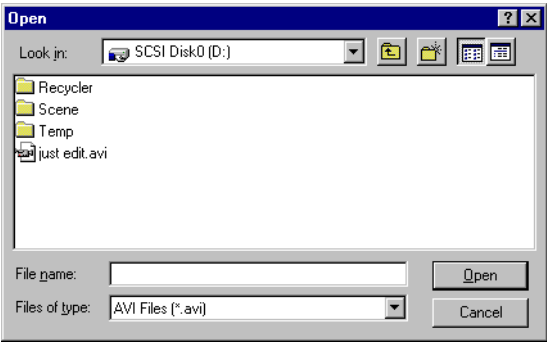
Click the Add file button



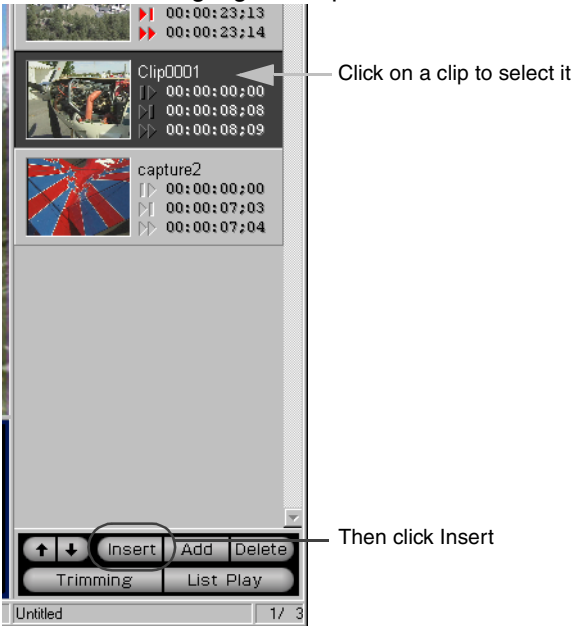
Or choose Add file to play list from the Edit menu



A window will appear so you can find the files you want. After you select your files, they will appear in the Play list.



To insert the current clip you are viewing into the Play list before another clip, select a clip in the Play list by clicking on it, then click the **Insert** button on the Play list control. The current clip you are viewing will be inserted into the Play list above the highlighted clip.



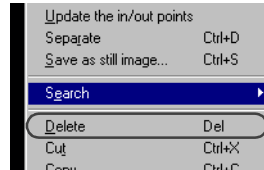
To Delete a clip from the Play list, click on the clip in the Play list to select it, then click the **Delete** button in the Play

list control or choose **Delete** from the Edit menu. The selected clip will be removed from the Play list.

Click Delete in the Play list control



Or choose Delete from the Edit menu



Rearranging clips in the Play list

To rearrange the order of clips in the Play list, select a clip and use the **Go Up** and **Go Down** buttons in the Play list control to change its position. You can rearrange drag clips by dragging them with the mouse.

Click to move the clip down



Click to move the clip up

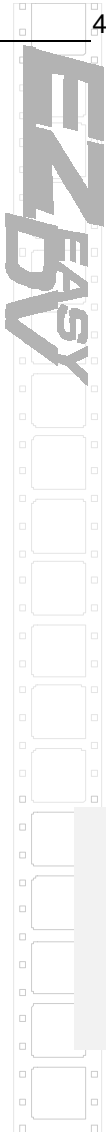
Playing clips from the Play list

To play a clip from the Play list, double-click on it and it will appear in the video window.

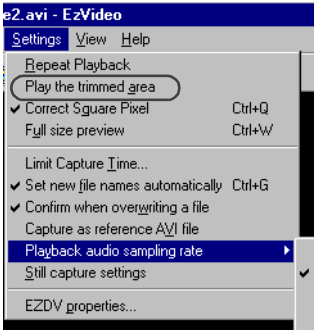
To play the clip, click the **Play** button on the AVI controller.



To play just the marked area from the In point to the Out point, turn on **Play the trimmed area** in the Settings menu. When you click Play in the AVI controller, it will only play



the marked area of clips. See the next section on trimming and separating clips to learn about In and Out points.



Trimming and Separating clips in the Play list

Trimming a clip alters the start and end points of the clip, but it does not change the AVI file itself. The start playback point of the clip is called the In point. The end playback point of the clip is called the Out point.

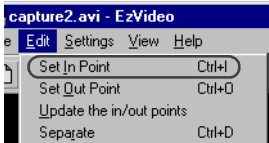
Trimming a clip allows you to eliminate portions of video that you don't need.

To trim a clip:

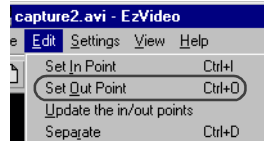
1. Double-click the clip in the Play list, or select the clip in the Play list and click the **Trimming** button on the Play-list controller. The clip will appear in the video window.



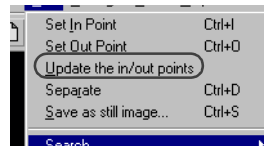
2. Move to the point where you want the playback to start and click the **In** button on the AVI controller or choose **Set In Point** from the Edit menu.



3. Move to the point where you want the playback to end and click the **Out** button on the AVI controller or choose **Set Out Point** from the Edit menu.



4. To preview the trimmed area, make sure **Play the trimmed area** is set in the Settings menu, and click the **Play** button on the AVI controller to view the trimmed section.
5. Once you have the In and Out points where you want them, click the **Update In/Out points** button on the AVI controller or choose **Update in/out points** from the Edit menu. The In and Out points of the clip in the Play list will update.



Separating a clip splits the clip into two pieces and allows you to insert pieces of video between the parts.

To separate a clip:

1. Double-click the clip in the Play list, or select the clip in the Play list and click the **Trimming** button on the Play-list controller. The clip will appear in the video window.



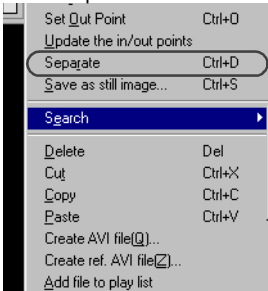
2. Move to the point where you want to separate the clip and click the **Separate** button in the toolbar, or choose

Separate from the Edit menu. The two halves of the clip will both be added to the Play list.

Click the Separate button



Or choose Separate from the Edit menu



Saving and Loading Play lists

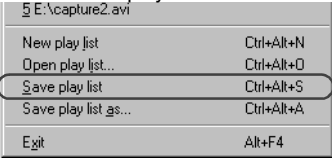
You can save and load Play lists for future use, and also for import to EZ Edit.

To save your play list, click the **Save play list** button in the toolbar, or choose **Save play list...** from the File menu.

Click the Save play list button



Or choose Save play list from the File menu



To load a saved play list, click the **Open play list** button in the toolbar, or choose **Open play list** from the File menu.

Click the Open play list button



Or choose Open play list from the File menu



It is useful to save play lists, as you can also load them into EZ Edit.

Playing the Play list

To play all the clips in the Play list in sequence, click the **List Play** button on the Play list control. All the clips in the Play list will be played one after the other without seams in-between.



When List Play is enabled, the List Play button is highlighted.



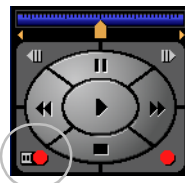
Output to Tape

EZ Video can also output your DV AVIs back to your DV or Digital 8 camera or deck. There are two methods to output back to tape - SyncRecord and manual record.

SyncRecord

SyncRecord will output the current clip (or clip list, if List Play is enabled) to DV tape.

1. Make sure a DV tape is in the deck, and the tape is not write-protected.
2. Position the tape at the point where you want to start recording using the Deck controller.
3. Click the SyncRecord button on the Deck controller.



The deck will go into Record Pause, then after a few seconds the current clip or clip list (depending on whether List Play mode is enabled or not) will be recorded to tape.

4. When recording is done the DV deck will go into Record Pause.

Note: Because DV decks and cameras are mechanical devices, the actual start of recording may not coincide with the exact time when the Record button is pressed or the Record command is sent. If you find that the beginning or end of the recording is starting or stopping too early or too late, you can make adjustments in the **Sync Rec** section of the **EZDV Properties**. The necessary settings vary for each DV device.

Manual record

Manual recording will record whatever you play out to DV tape.

1. Play an AVI clip.



2. Click the **Record** button on the DV Deck controller. The DV deck will start recording



3. Click the **Stop** button on the DV Deck controller when you are done recording.



Interface In-depth

Toolbar

The toolbar contains buttons for many commonly used menu items.



Main toolbar

The functions of the main toolbar buttons are as follows:



New Specifies that a new file should be created the next time the capture button is pressed.



Open Opens an existing AVI file.



Separate Separates the video clip at the current position and adds the pieces to the play list.



Save as still image Save the current video frame as a still image.



Batch capture / Seamless capture Opens the Batch/Seamless capture dialog for batch or seamless capture of video.



Play list Shows or hides the play list area.



Play list toolbar



New play list Creates a new play list.

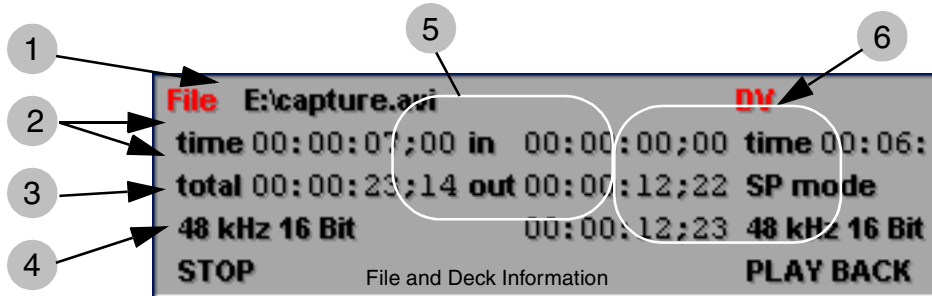


Open play list Brings up the file dialog to open a play list.

	Save play list	Save the current play list.
	Add file	Add file
	Cut	Cuts the selected clip from the playlist and moves it to the clipboard.
	Copy	Copies the selected clip in the playlist to the clipboard.
	Paste	Pastes the clip on the clipboard into the play list.

File and Deck Information

The file and deck information area displays information about the loaded AVI file and the connected DV device.

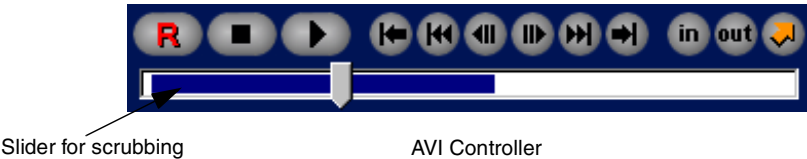


The information in the File and Deck Information area is as follows:

1. Filename of the loaded AVI file
2. Current time position and Total time of the AVI
3. Audio sampling rate of the AVI
4. Current clip status (Stop, Play, etc.)
5. Clip In and Out trimming points and total time for the clip of the AVI
6. DV device timecode, recording mode, audio sampling rate, and status

AVI Controller

The AVI controller provides playback and trimming controls



for AVI files that you load into EZ Video.

- | | | |
|---|-----------------------|---|
|  | Capture | Starts capture of DV data from the DV camera or deck to the computer hard disk. |
|  | Stop | Stops playback of the current AVI file. |
|  | Play | Starts playback of the current AVI file. |
|  | Top frame | Moves the playback point to the beginning of the AVI file. |
|  | Previous clip | Moves the playback point to the previous In or Out point, or to the start of the AVI file, if there is no previous In or Out point. |
|  | Previous frame | Moves the playback point one frame backward. |
|  | Next frame | Moves the playback point one frame forward. |
|  | Next clip | Moves the playback point to the next In or Out point, or to the end of the AVI file, if there is no next In or Out point. |
|  | Bottom frame | Moves the playback point to the end of the AVI file. |
|  | Set in point | Sets the In point for trimming the current clip. |
|  | Set out point | Sets the Out point for trimming the current clip. |

**Update in/out points**

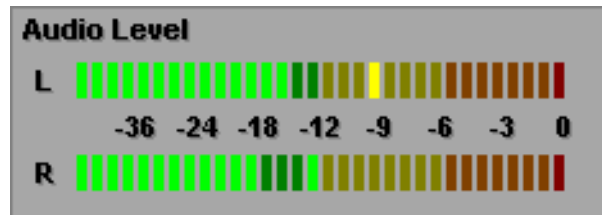
Updates the clip in the Play list or EZ Edit with the new In and Out points.

**Scrub Bar**

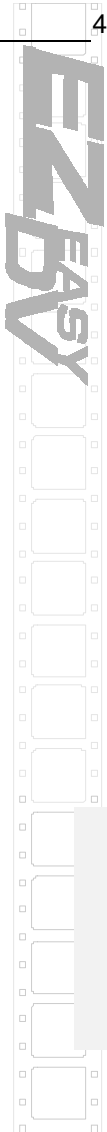
Slide to scrub through the AVI file. The area in blue represents the subclip defined by the In and Out points.

Audio level meters

The audio level meters display the audio level during playback and capture of video. They are only visible when in full size preview mode.

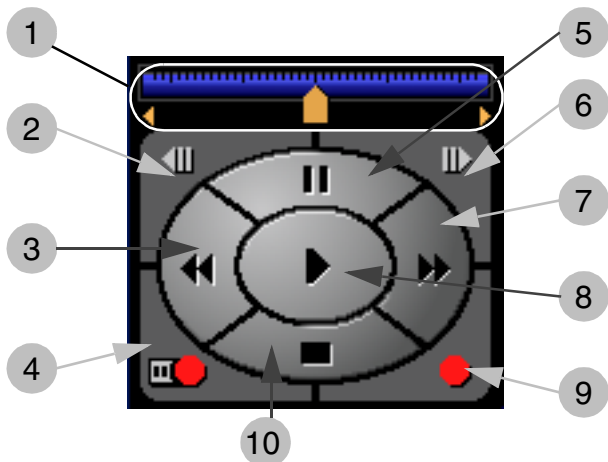


Audio Level Meters



Deck Controller

The Deck controller lets you control the connected DV deck through the i.LINK interface.



1. Shuttle controller

The shuttle controller lets you play the tape forward or backward at varying speeds.

There are five stops on either side of the middle.

Drag the yellow slider to the left to play backward, drag it to the right to play forward.

The playback speeds will depend on your DV deck, but the stops are generally 1/10 speed, 1/5 speed, 1x, 2x, and 20x.

2. Previous frame

Moves the DV deck one frame back.

3. Rewind

Pressed when the DV deck is stopped, it will rewind the tape.

Pressed when the DV deck is playing, it will go into reverse-scan mode.

4. SyncRecord

Use SyncRecord to record video back to tape.

Please see the section on SyncRecord in this chapter for information on how to use SyncRecord.

5. Pause

Pauses the DV deck

6. Next frame

Moves the DV deck one frame forward.

7. Forward

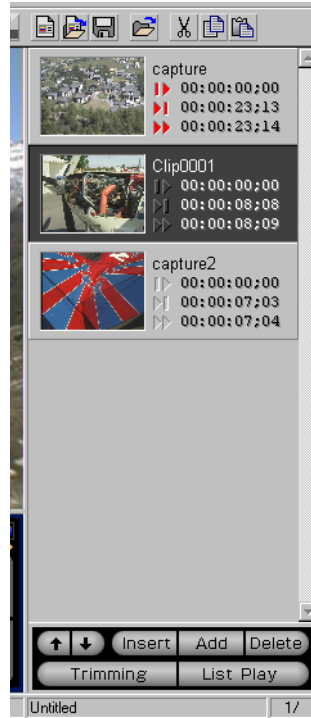
Pressed when the DV deck is stopped, it will fast-forward the tape.

Pressed when the DV deck is playing, it will go into forward-scan mode.

8. **Play**
Plays the tape in the DV deck.
9. **Record**
Starts recording on the DV deck.
10. **Stop**
Stops the tape in the DV deck.

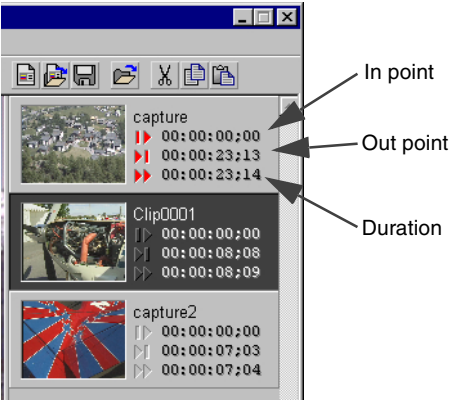
Play list

The Play list allows you to arrange, trim, and rearrange clips in a list that can be played in order from start to end.

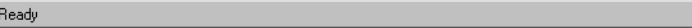


Play list

You can use the Play list for simple assemble editing. The list shows the clips in the Play list. Each clip lists its In point, Out point, and Duration of the marked area.



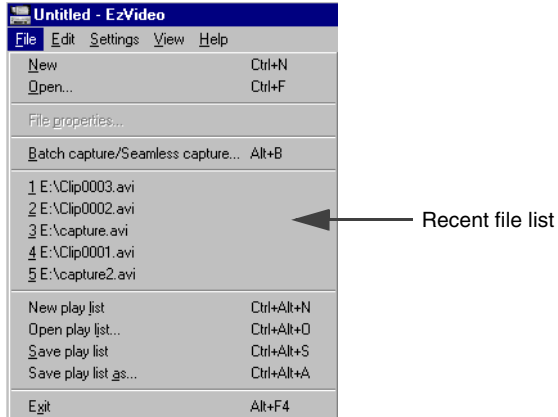
Status Bar



The Status Bar lists the AVI and DV deck status on it.

Menu options

File Menu



New Specifies that a new file should be created the next time the capture button is pressed.

Open Opens an AVI file in the video window.

File Properties

Opens the File Properties dialog.

Batch capture/Seamless capture

Opens the Batch capture/Seamless capture dialog.

Recent file list

Provides quick opening of recent files.

New play list

Clears the current play list and creates a new one.

Open play list...

Opens a saved play list file.

Save play list

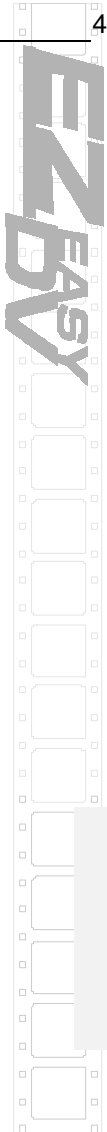
Saves the current play list.

Save play list as...

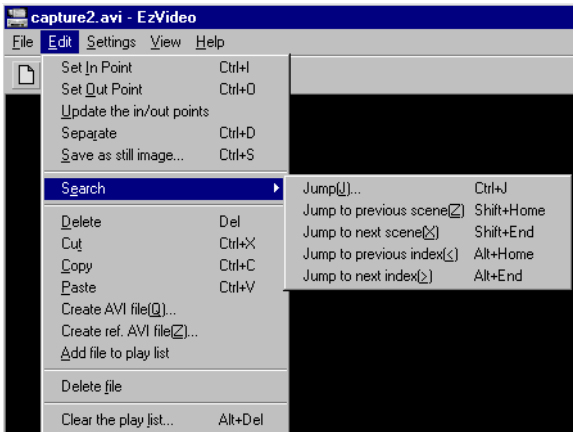
Saves the current play list as a new play list file.

Exit

Quits the EZ Video application.



Edit Menu



Set In Point Sets the In point for the current clip.

Set Out Point
Sets the Out point for the current clip.

Update the in/out points
Updates the In and Out points of the selected clip in the clip list.

Separate Separates the clip at the current position.

Save as still image...
Opens the Save as still image dialog to save the current frame as a still image.

Search

Jump
Opens the Jump dialog to jump to a particular time or frame.

Jump to previous scene
Searches for and moves the playback position to the previous scene (if any).

Jump to next scene
Searches for and moves the playback position to the next scene (if any).

Jump to previous index
Moves the playback position to the previous index point (if any).

Jump to next index
Moves the playback position to the next index point (if any).

Delete Deletes the selected clip from the Play list.

Cut Places the selected clip from the Play list on the clipboard and removes it from the clip list.

Copy Copies the selected clip from the Play list to the clipboard.

Paste Pastes the clip on the clipboard to the Play list.

Create AVI file

Creates a new AVI file from the selected clip. If the selected clip is larger than 2 gigabytes (slightly over 9 minutes) then you should create a ref. AVI file instead, or only the first 2 gigabytes of the clip will be put into the new AVI.

Create ref. AVI file

Creates a Reference AVI file from the selected clip.

Add file to play list

Opens the Open File dialog to add a file to the Play list.

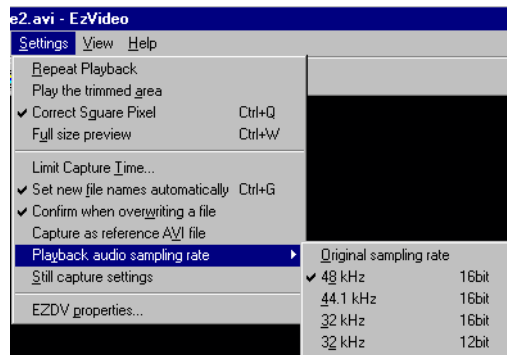
Delete file

Deletes the selected clip file from the Play list and from hard drive. Use with caution!

Clear the play list...

Clears the play list.

Settings Menu



Repeat Playback

When checked, AVI playback will loop until stopped by the user.

When un-checked, AVI playback will stop at the end of the AVI or the end of the last clip (in List Play mode).

Play the trimmed area

When checked, only video from the In point to the Out point of the clip will be played.

When un-checked, the entire AVI file will play regardless of the marked In and Out points.

Correct Square Pixel

When checked, the on-screen display will be corrected to dis-

play the DV video as it would look on a television or video monitor.

When un-checked, the on-screen DV video will be slightly different from the image viewed on a television or video monitor.

It is best to leave this option checked.

Full size preview

When checked, the full-size interface with audio meters is used.

When un-checked, the compact interface without audio meters is used.

Limit Capture Time...

Opens the Limit Capture Time dialog which lets you restrict captures to a certain time or number of frames.

Set new file names automatically

When checked, each time the Capture button is pressed, a the current filename is incremented by 1 and a new file is automatically created for the capture. Set the default name and location in the Open file dialog.

When un-checked, each time the Capture button is pressed, it will either ask for a new filename (if New was pressed) or overwrite the existing file (if a file was loaded).

Confirm when overwriting a file

When checked, EZ Video will ask for confirmation before overwriting an existing file.

When un-checked, EZ Video will not ask for confirmation if a file is about to be overwritten.

Capture as reference AVI file

When checked, EZ Video will capture Reference AVI files. See the section about Reference AVI files in this chapter for more information.

When un-checked, EZ Video will capture standard AVI files, which are limited to 2 gigabytes (a little over 9 minutes).

Playback audio sampling rate

Controls the audio sampling rate used for playback. This should be set to a particular value, and not left at Original sampling rate.

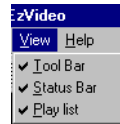
Still capture settings

Opens the Save as still image dialog to change the Save as still image settings.

EZDV properties...

Opens the EZDV properties dialog.

View menu



Tool Bar

Toggles display of the Tool bar.

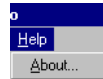
Status Bar

Toggles display of the Status bar.

Play list

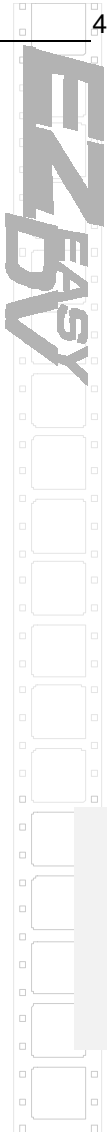
Toggles display of the Play list.

Help menu



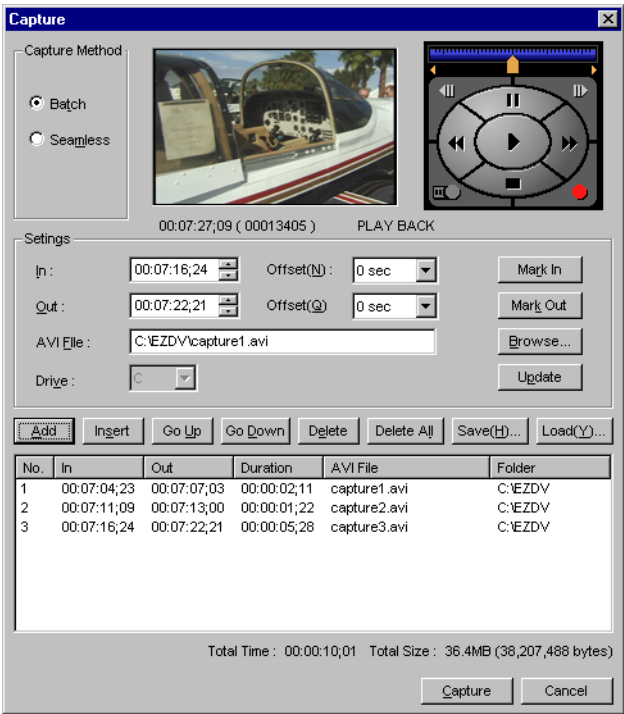
About...

Opens the About dialog to display software version information.



Dialogs

Batch/seamless capture - Batch mode



Capture Method

Batch Use Batch capture mode.

Seamless

Use Seamless capture mode.

Settings

In Timecode at which the clip should begin.

Out Timecode at which the clip should end.

AVI File

Filename for the captured clip.

Mark In button

Set the current tape location as the in point for the clip.

Mark Out button

Sets the current tape position as the out point of the clip.

Browse button

Opens a window to set the clip's filename.

Update button

Updates the selected list entry with the specified In point, d Out point, and AVI filename.

Add button Add the current settings as a new clip at the end of the capture list.

Insert button Add the current settings as a new clip before the selected clip in the capture list (or to the end of the capture list, if no there is no selection).

Go Up button Moves the selected clip one position upward in the capture list.

Go Down button

Moves the selected clip one position downward in the capture list.

Delete button Deletes the selected list entry from the capture list.

Delete All button

Deletes all clips from the capture list.

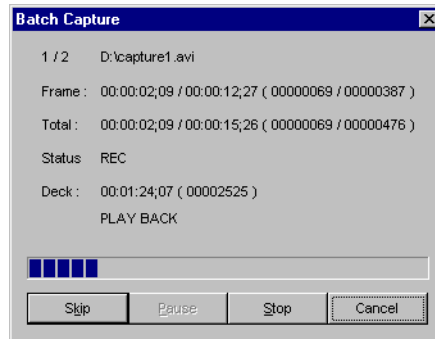
Save button Saves the capture list.

Load button Loads a capture list.

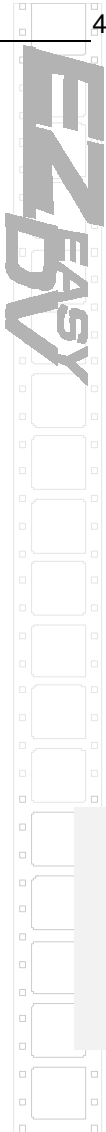
Capture button Starts the batch capture operation.

Cancel button Clears the capture list and closes the Batch capture/Seamless capture window.

Batch Capture progress



/ # xxxxx Displays the current clip being captured, the total number of clips to be captured, and the current clip's filename. Ex. **1 / 2 D:\capture1.avi** specifies that clip 1 of 2 clips is currently being captured and it is writing to D:\capture1.avi



Frame Displays the current frame out of the total frames for the current clip in hours, minutes, seconds, frames, and frame count.

Total Displays the current frame out of the total frames for the entire capture in hours, minutes, seconds, frames, and frame count.

Status Displays the current AVI operation.

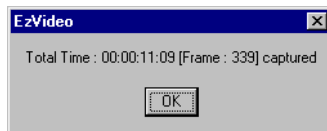
Deck Displays the current tape position in hours, minutes, seconds, frames, and frame count and the deck's current operation.

Skip button Ends the current clip and proceeds to the next clip in the capture list.

Stop button Stops the batch capture at the current point, saving all clips that have been captured.

Cancel button Stops the batch capture and discards all clips that have been captured.

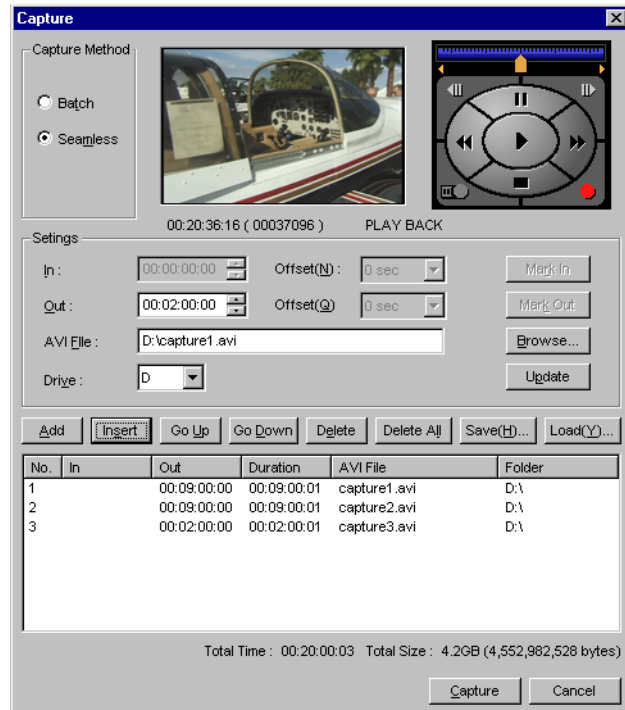
Batch Capture completion



Total Time Displays the total time captured in hours, minutes, seconds, frames, and frame count.

OK button Closes the completion window.

Batch/Seamless capture - Seamless mode



Capture Method

Batch Use Batch capture mode.

Seamless

Use Seamless capture mode.

Settings

Out Duration of the clip plus one frame (clip duration will be one frame longer than the specified duration).

AVI File

Filename for the captured clip.

Browse button

Opens a window to set the clip's filename.

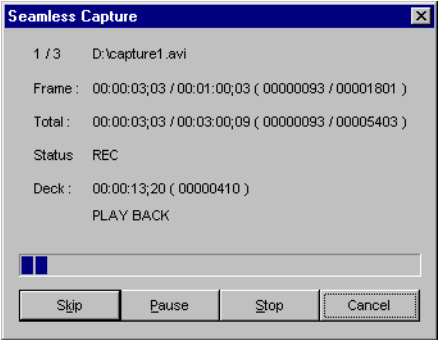
Update button

Updates the selected list entry with the specified Out point (duration) and AVI filename.

Insert button Add the current settings as a new clip before the selected clip in the capture list (or to the end of the capture list, if no there is no selection).

- Go Up** button Moves the selected clip one position upward in the capture list.
- Go Down** button
Moves the selected clip one position downward in the capture list.
- Delete** button Deletes the selected list entry from the capture list.
- Delete All** button
Deletes all clips from the capture list.
- Save** button Saves the capture list.
- Load** button Loads a capture list.
- Capture** button Starts the seamless capture operation.
- Cancel** button Clears the capture list and closes the Batch capture/Seamless capture window.

Seamless Capture progress



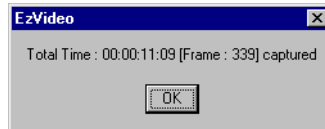
- # / # xxxxx** Displays the current clip being captured, the total number of clips to be captured, and the current clip's filename. Ex. **1 / 2**
D:\capture1.avi specifies that clip 1 of 2 clips is currently being captured and it is writing to D:\capture1.avi
- Frame** Displays the current frame out of the total frames for the current clip in timecode and frame count.
- Total** Displays the current frame out of the total frames for the entire capture in timecode and frame count.
- Status** Displays the current AVI operation.
- Deck** Displays the current tape position in timecode and frames and the deck's current operation.
- Skip** button Ends the current clip and proceeds to the next clip in the capture list.

Pause button Pauses the capture

Stop button Stops the seamless capture at the current point, saving all clips that have been captured.

Cancel button Stops the seamless capture and discards all clips that have been captured.

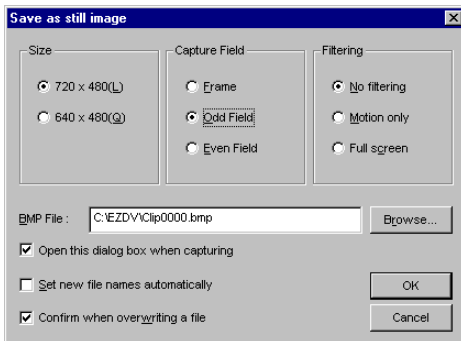
Seamless Capture completion



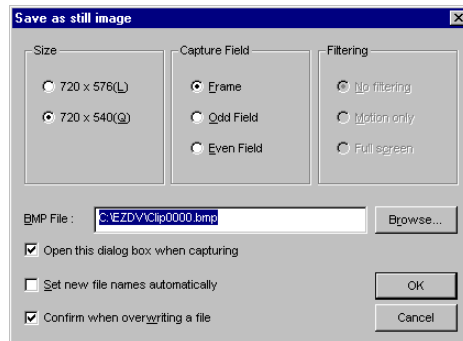
Total Time Displays the total time captured in hours, minutes, seconds, frames, and frame count.

OK button Closes the completion window.

Save as still image...



NTSC



PAL

Size

720x480 (NTSC), 720x576 (PAL)

Save bitmap using DV aspect ratio resolution. When displayed on a computer screen it will appear slightly distorted, but will appear correct on output from a DV device when used in a DV project.

Use this setting when you intend to use the image in a DV production and want the stills to appear as you captured them.

640x480 (NTSC), 720x540 (PAL)

Save bitmap using square pixel aspect ratio resolution. When displayed on a computer screen it will appear normal, but may appear slightly distorted if used for DV productions.

Use this setting when you intend to use the image in com-

puter applications such as presentations or web pages and want the stills to appear correct on the computer monitor.

Capture Field

Note: Television images are interlaced, meaning that even and odd lines of a frame video are split into two fields.

Frame

Use the entire frame (both fields) for the still image. In stills with high motion, there may be some jagged edges on moving objects because of the difference in position in the fields.

Use this for the best horizontal resolution on images that contain little or no motion.

Odd Field

Uses only the odd field for the still image. The even lines will be duplicated or interpolated from the odd lines.

Use this for images that contain motion and do not look good when saved with Frame.

Even Field

Uses only the even field for the still image. The odd lines will be duplicated or interpolated from the even lines.

Use this for images that contain motion and do not look good when saved with Frame.

Filtering

No filtering

Do not filter the image.

Motion only

Filter for average motion.

Use this when there is moderate motion occurring in the image.

Full screen

Filter the entire image.

Use this when there is a high amount of motion occurring in the image.

File

Specifies the file name for the captured image. Images can be saved in one of the following formats:

Windows bitmap (.BMP, .DIB)

JPEG (.JPG, .JPEG)

Tagged Image File Format (.TIF, .TIFF)

Adobe Photoshop 3.0 (.PSD)

Truevision TARGA (.TGA, .TARGA)

Browse button

Opens a window to set the still image's filename.

Open this dialog box when capturing checkbox

When checked, this dialog will appear when **Save as still image...** is selected or the **Save as still image** button is pressed.

When unchecked, this dialog will not appear and the current **Save as still image...** settings will be used to save the image when **Save as still image...** is selected or the **Save as still image** button

is pressed.

If you turn the dialog off and want to re-enable it, you can re-enable it in the **Still image capture settings**.

Set new file names automatically checkbox

When checked, the still image filename will incremented automatically after each save.

When unchecked, the still image filename is unchanged after each save.

Use this option in conjunction with **Open this dialog box when capturing** to speed capture of multiple still images.

Confirm when overwriting a file

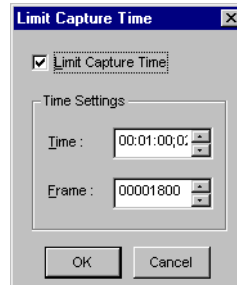
When checked, EZ Video will ask for confirmation if a file is to be overwritten.

When unchecked, EZ Video will not ask for confirmation before overwriting a file.

OK button Saves the still image and closes the Save as still image window.

Cancel button Cancels the current Save as still image operation and closes the window.

Limit Capture Time...



Limit Capture Time checkbox

When checked, enables automatic stop of manual capture after the specified time.

When unchecked, manual capture will not automatically stop.

Time Settings

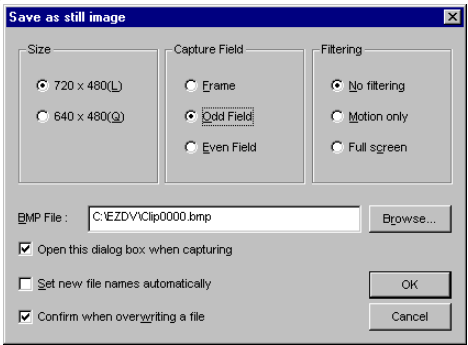
Time Length of time that manual captures should automatically stop at, in hours, minutes, seconds, and frames.

Frame Length of time that manual captures should automatically stop at, in number of frames.

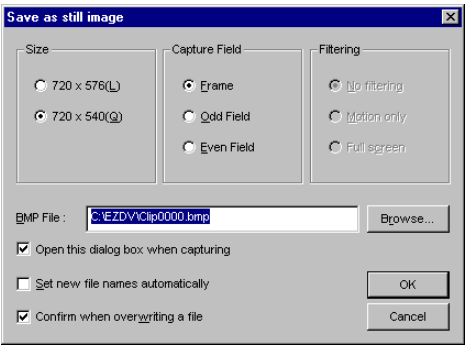
OK button Accepts the changes to the Limit Capture Time settings and closes the window.

Cancel button Cancels changes to the Limit Capture Time settings and closes the window.

Still capture settings



NTSC



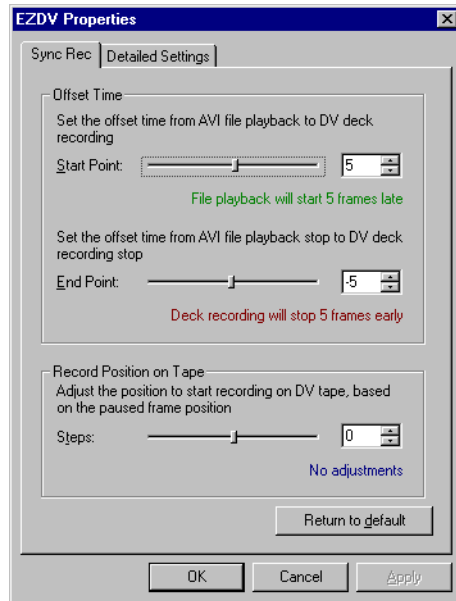
PAL

OK button Sets these settings as default for Save as still image and closes the window.

Cancel button Cancels changes to the Save as still image settings and closes the window.

Other settings are the same as for the **Save as still image...** dialog.

EZDV properties... - Sync Rec



Offset Time

Start Point

Sets the number of frames early or late that AVI file playback should occur when doing a SyncRecord.

The default is for the AVI file to start playing 5 frames after the DV deck has been set to start recording. This assumes that it takes 5 frames of time for the DV deck to actually engage the recording head and start recording.

End Point

Sets the number of frames early or late that the DV deck should stop recording.

The default is for the DV deck to get the Stop command 5 frames before the end of the AVI file. This assumes that it takes 5 frames of time for the DV deck to actually disengage the recording head and stop recording.

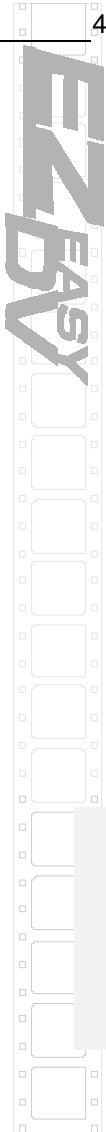
Record Position on Tape

Steps

Sets the default recording position when SyncRecording from a paused frame. The default is for recording to start at the paused frame.

Return to default button

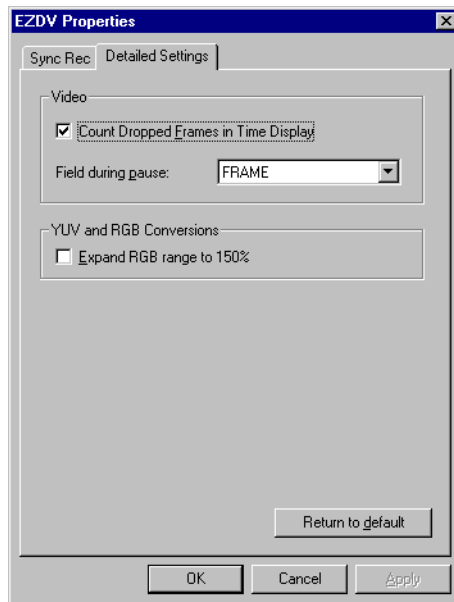
Returns the settings for this tab to the defaults.



OK button Apply the current Sync Rec and Detailed Settings settings and close the window.

Cancel button
Cancel the current changes to the Sync Rec and Detailing Settings settings and close the window.

EZDV properties... - Detailed Settings



Video

Count Dropped Frames in Time Display checkbox (NTSC only)

When checked, 29.97 fps drop-frame timecode is used.

When unchecked, 30 fps non-drop-frame timecode is used.

This option affects all timecode entry and calculations.

Except in special cases, this option should be checked.

Field during pause

FRAME

When AVI playback is paused, the frame (both fields) is shown.

There may be some jitter apparent in the display when FRAME is selected for pause. This does not affect DV output.

ODD

When AVI playback is paused, only the odd field is shown.

Use this option to eliminate jitter in the display on paused playback. This does not affect DV output.

EVEN

When AVI playback is paused, only the even field is shown.

Use this option to eliminate jitter in the display on paused playback. This does not affect DV output.

YUV and RGB Conversions

Expand RGB range to 150% checkbox

When checked, the luminance and chrominance ranges are increased during conversion to RGB.

When unchecked, the standard DV Blue Book conversion method (which limits the RGB range) is used.

This option has no effect on programs which edit in YUV colorspace, such as EZ Edit. However, for programs which use RGB colorspace, setting this option may help increase the video quality of AVIs created in those programs.

Return to default button

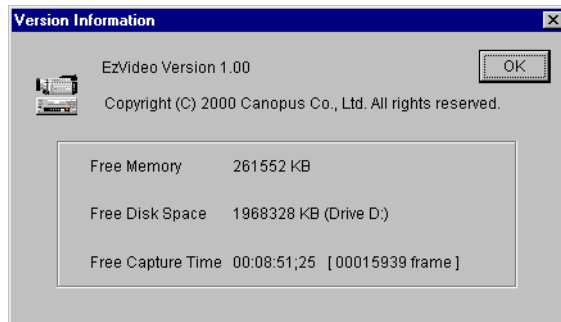
Returns the settings for this tab to the defaults.

OK button Apply the current Sync Rec and Detailed Settings settings and close the window.

Cancel button

Cancel the current changes to the Sync Rec and Detailing Settings settings and close the window.

About



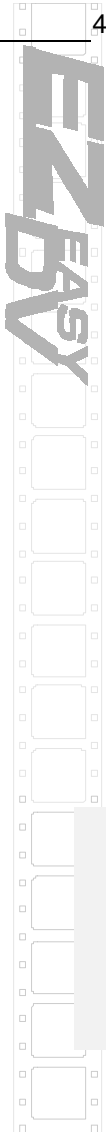
Free Memory Displays the amount of free memory in the system.

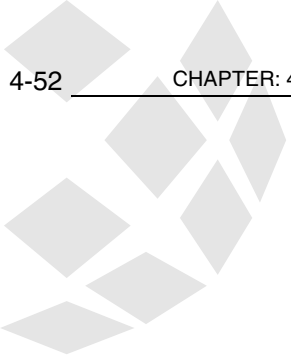
Free Disk Space

Displays the amount of free disk space on the temporary drive.

Free Capture Time

Displays the amount of video that can be stored on the drive listed for Free Disk Space, in hours, minutes, seconds, and frames, and in frame count.







EZ Audio

**EZ
DV**

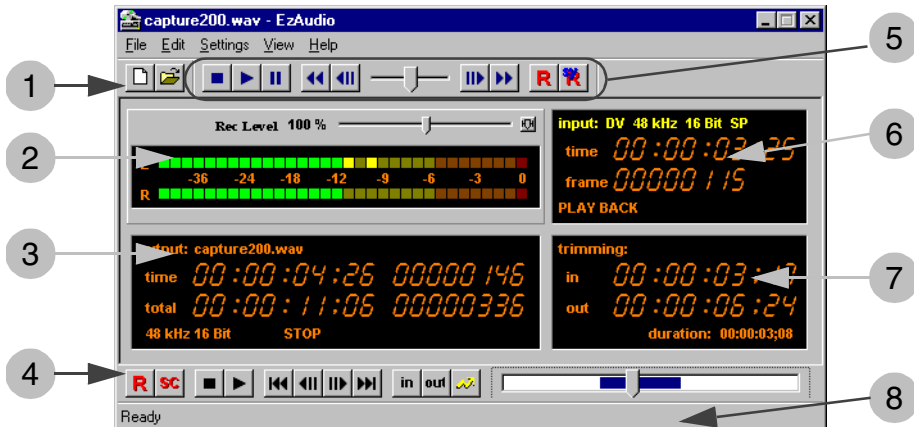
Introducing EZ Audio

This chapter will introduce you to EZ Audio, the audio capture component of the EZDV software.

The features of EZ Audio will be described to familiarize you with its functions.

EZ Audio Interface

The EZ Audio application allows you control your DV or Digital 8 camera or deck and can capture audio from your DV device. It provides playback and capture of DV audio.



EZ Audio

**EZ
Audio**

The EZ Audio window consists of eight main sections:

1. Toolbar - includes shortcut buttons for commonly used menu items
2. Level meters - displays the incoming or outgoing audio level.
3. File Information - displays information about the loaded WAV file.
4. WAV controller - contains buttons to control playback of the loaded WAV file, a button to start capture from the connected DV device, a button for SyncCapture from the connected DV device, buttons for trimming, and a slider to scrub through the audio.
5. Deck controller - contains a shuttle slider and controls for playback of the connected DV device. There are also SyncRecord and Record buttons to start recording on the connected DV device.
6. Deck information area - displays information about the status of the DV device.
7. Status bar - lists information about the DV device, and also displays the function of the button the mouse cursor is over.

Supported Audio Sampling Rates

When capturing DV audio in EZAudio, the audio is captured at the same sampling rate the DV device captured it at. Valid sampling rates for DV audio are: 32 KHz 12-bit stereo, 44.1 KHz 16-bit stereo, and 48 KHz 16-bit stereo.

EZAudio supports only standard DV sampling rates for both capture and playback.

Capturing Audio

It is often useful to be able to capture just the audio from a video, for voice-over and other purposes. EZAudio lets you capture just the audio portion of the DV data into a WAV file.

There are two footage ways you can capture audio with EZ Audio - **Manual capture** and **SyncCapture**.

Manual Capture

Capturing audio to your computer can be as simple as clicking **Play** on the Deck controller and clicking **Capture** on the WAV controller.

Click the Play button to start the deck playing

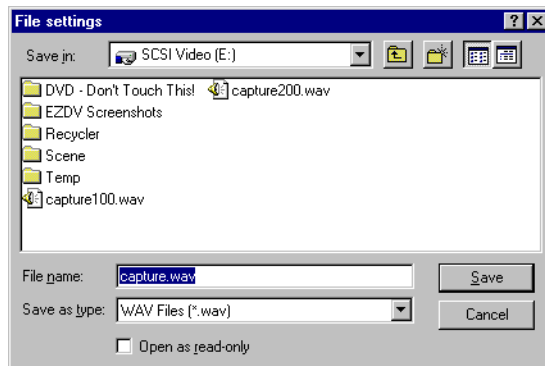


Then click the Capture button



If you do not have **Set new filenames automatically** checked and have not already set a filename, a dialog will appear to ask you for the filename to use for the captured audio.

If this window appears, give the clip a name and save it on your drive



While it is not necessary to save audio on your video drive, it is often convenient to keep all the files for a production together. When you want to stop capturing, click the **Stop** button on the WAV controller.

Click the Stop button when you are done



SyncCapture

SyncCapture allows you to start audio capture at a specific point on the tape.

To start sync capture

1. Position the deck at the start of the segment you want to record by using the Deck controller.

Position the tape at the start of where you want to capture by using the Deck controller.



2. Click the **SyncCapture** button on the WAV controller.



3. REC PAUSE will flash in the WAV info display. Click the **Play** button on the WAV controller to start SyncCapture.



4. The DV deck will start playing and the computer will start capturing. When you're done capturing, click the **Stop** button on the WAV controller to stop capture.

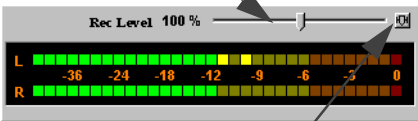


Adjusting Audio Levels while Recording

The **Rec level** slider allows you to boost or lower the audio level during capture. The adjusted audio level is displayed on the level meters. This allows you to adjust for audio that is too loud or too soft.

To reset the recording level back to 100%, click the **Reset Rec Level** button.

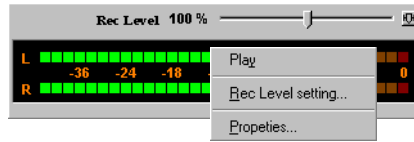
Recording level adjustment slider



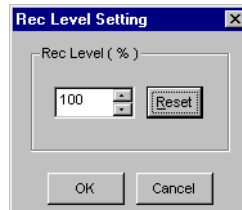
Reset Rec Level button

You can also use the **Rec Level setting** dialog to enter a specific percentage instead of using the slider.

Right-click in the Level Meter area and choose Rec Level setting... from the pop-up menu.



Set the desired recording level in the Rec Level Setting dialog.



The goal in adjusting recording levels is to keep the peaks below 0, or the audio will clip. The yellow region is generally a safe area to keep the levels in.

Output to Tape

EZ Audio can also output your DV-compatible WAVs back to your DV or Digital 8 camera or deck. There are two methods to output back to tape - SyncRecord and manual record.

Important Note on Audio Recording



EZ Audio video output

Recording back to tape from EZ Audio is not an audio insert! When you record audio to tape, both the audio and a blue video screen with the audio timecode will be output to tape - the previous audio and video (if any) will be over-written.

If you want to add or replace the audio of a video segment, you need to capture the video segment in EZ Video and add or replace the audio in EZ Edit.

SyncRecord

SyncRecord will output the current clip (or clip list, if List Play is enabled) to DV tape.

1. Make sure a DV tape is in the deck, and the tape is not write-protected.
2. Position the tape at the point where you want to start recording using the Deck controller.

Position the tape where you want to start recording



3. Click the SyncRecord button on the Deck controller.



The deck will go into Record Pause, then after a few seconds the current WAV will be recorded to tape.

4. When recording is done the DV deck will go into Record Pause.

Note: Because DV decks and cameras are mechanical devices, the actual start of recording may not coincide with the exact time when the Record button is pressed or the Record command is sent. If you find that the beginning or end of the recording is starting or stopping too early or too late, you can make adjustments in the Sync Rec section of the EZDV Properties. The necessary settings vary for each DV device.

Manual record

Manual recording will record whatever you play out to DV tape.

1. Play a WAV file.



2. Click the **Record** button on the Deck controller. The DV deck will start recording.



3. Click the **Stop** button on the DV Deck controller when you are done recording.

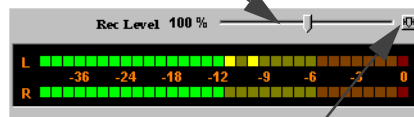


Adjusting Audio Levels during Output

The **Rec level** slider allows you to boost or lower the audio level during output. The adjusted audio level is displayed on the level meters. This allows you to adjust for audio that is too loud or too soft.

To reset the recording level back to 100%, click the **Reset Rec Level** button.

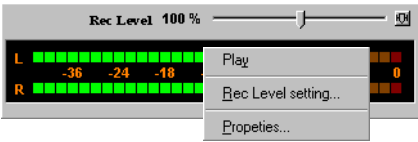
Recording level adjustment slider



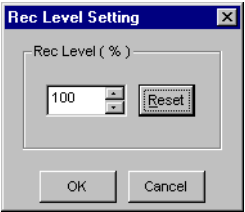
Reset Rec Level button

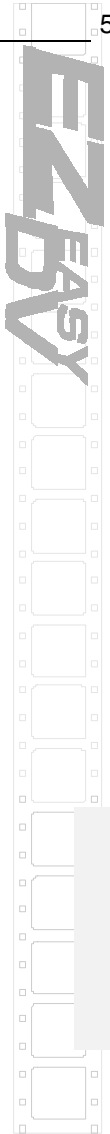
You can also use the **Rec Level setting** dialog to enter a specific percentage instead of using the slider.

Right-click in the Level Meter area and choose Rec Level setting... from the pop-up menu.



Set the desired recording level in the Rec Level Setting dialog.





Interface In-depth

Toolbar

The toolbar contains buttons for many commonly used menu items.



Toolbar



New Specifies that a new file should be created the next time the capture button is pressed.

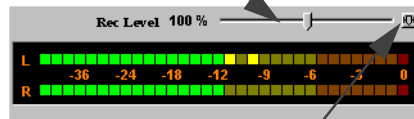


Open Opens an existing WAV file.

Level Meters

The level meters provide a visual display of the audio gain. The Rec Level slider allows adjustment of audio level during capture and output.

Recording level adjustment slider



Reset Rec Level button

Recording level adjustment slider

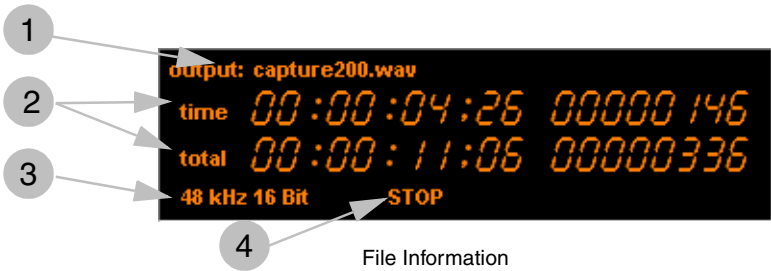
The slider allows you to increase or decrease the recording level on capture or output. The level can be adjusted from 0% (mute) to 200% (double volume).

Reset Rec Level button

Resets the Recording Level to 100%.

File Information

The file information area displays information about the loaded WAV file.



The information in the File and Deck Information area is as follows:

1. Filename of the loaded WAV file
2. Current time position and Total time of the WAV
3. Audio sampling rate of the WAV
4. Current clip status (Stop, Play, etc.)

WAV Controller

The WAV controller provides playback and trimming controls for WAV files that you load into EZ Audio.



WAV Controller

- | | | |
|---|--------------------|--|
|  | Capture | Starts capture of DV audio data from the DV camera or deck to the computer hard disk. |
|  | SyncCapture | Starts sync capture of DV audio data from the DV camera or deck to the computer hard disk. |
|  | Stop | Stop playback or capture of the current WAV file. |
|  | Play | Starts playback of the WAV file. Also starts recording in SyncCapture. |
|  | Top frame | Moves the playback point to the beginning of the WAV file. |

	Previous frame	Moves the playback point one frame backward.
	Next frame	Moves the playback point one frame forward.
	Bottom frame	Moves the playback point to the end of the WAV file.
	Set in point	Sets the In point for trimming the current clip.
	Set out point	Sets the Out point for trimming the current clip.
	Update In/Out points	Updates the audio clip in EZ Edit with the new In and Out points.

Deck controller



Deck Controller

	Stop	Stop playback or recording on the DV deck.
	Play	Starts playback on the DV deck.
	Pause	Pauses playback on the DV deck.
	Rewind	When the DV deck is stopped, it will rewind the tape. When the DV deck is playing, it will go into reverse-scan mode.
	Previous frame	Moves the DV deck one frame backward.
	Next frame	Moves the DV deck one frame forward.
	Forward	When the DV deck is stopped, it will fast-forward the tape. When the DV deck is playing, it will go into forward-scan mode.



Record Starts recording on the DV Deck.



SyncRecord Starts SyncRecording on the DV Deck.

Deck information

1

2

3

input: DV 48 kHz 16 Bit SP

time 00:00:03:25

frame 00000115

PLAY BACK

Deck information

The information in the Deck Information area is as follows:

1. Deck audio sampling rate and recording mode (SP/LP)
2. Current time position and frame number of the deck
3. Current deck status (Stop, Play, etc.)

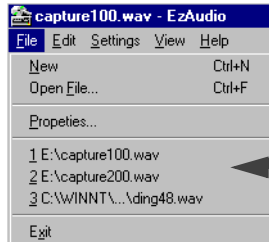
Status Bar



The Status Bar lists the AVI and DV deck status on it. When the Play list is open, it also shows information about the current Play list.

Menu options

File menu



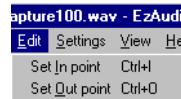
Recent file list

New Specifies that a new file should be created the next time the capture button is pressed.

Open Opens an existing WAV file.

Properties Opens the File Properties dialog.

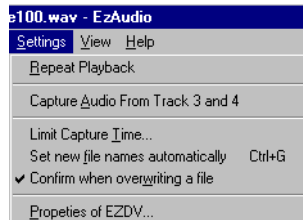
Edit Menu



Set In Point Sets the In point for the current clip.

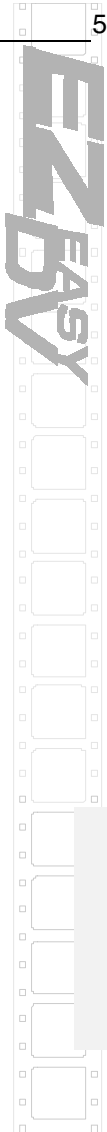
Set Out Point Sets the Out point for the current clip.

Settings Menu



Repeat Playback

When checked, AVI playback will loop until stopped by the user.



When un-checked, AVI playback will stop at the end of the AVI or the end of the last clip (in List Play mode).

Capture Audio From Track 3 and 4

When checked, audio will be captured from Tracks 3 and 4 for DV tapes that have 4-channel audio. If you capture from DV tapes with 2-channel audio, channels 1 and 2 will be captured.

When unchecked, audio will be captured from Tracks 1 and 2, even if channel 3 and 4 are present (4-channel audio).

Note: EZ Edit can capture video with channel 1 and 2 audio (in an AVI) along with channel 3 and 4 audio (in a WAV) simultaneously.

Limit Capture Time...

Opens the Limit Capture Time... dialog.

Set new file names automatically

When checked, each time the Capture button is pressed, the current filename is incremented by 1 and a new file is automatically created for the capture. Set the default name and location in the Open file dialog.

When un-checked, each time the Capture button is pressed, it will either ask for a new filename (if New was pressed) or overwrite the existing file (if a file was loaded).

Confirm when overwriting a file

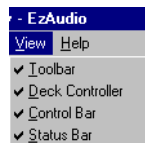
When checked, EZ Audio will ask for confirmation before overwriting an existing file.

When un-checked, EZ Audio will not ask for confirmation if a file is about to be overwritten.

EZDV properties...

Opens the EZDV properties dialog.

View menu



Tool Bar

Toggles display of the Tool bar.

Deck Controller

Toggles display of the Deck Controller.

Control Bar

Toggles display of the WAV Controller.

Status Bar

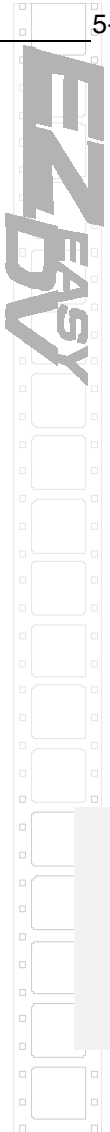
Toggles display of the Status bar.

Help menu



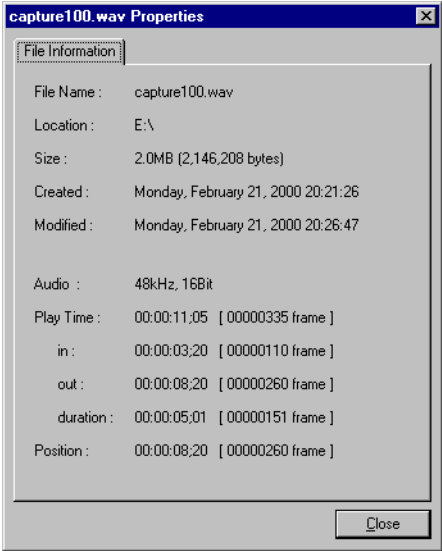
About...

Opens the About dialog to display software version information.



Dialogs

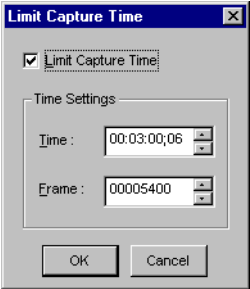
File Properties



The File Properties dialog displays all the important information about the loaded WAV file.

Close buttonCloses the File Properties window.

Limit Capture Time...



Limit Capture Time checkbox

When checked, enables automatic stop of manual capture

after the specified time.

When unchecked, manual capture will not automatically stop.

Time Settings

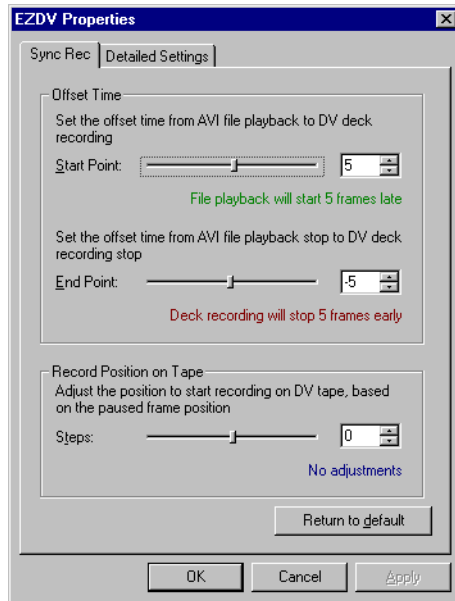
Time Length of time that manual captures should automatically stop at, in hours, minutes, seconds, and frames.

Frame Length of time that manual captures should automatically stop at, in number of frames.

OK button Accepts the changes to the Limit Capture Time settings and closes the window.

Cancel button Cancels changes to the Limit Capture Time settings and closes the window.

EZDV properties... - Sync Rec



Offset Time

Start Point

Sets the number of frames early or late that AVI file playback should occur when doing a SyncRecord.

The default is for the AVI file to start playing 5 frames after the DV deck has been set to start recording. This assumes that it takes 5 frames of time for the DV deck to actually engage the recording head and start recording.

End Point

Sets the number of frames early or late that the DV deck

should stop recording.

The default is for the DV deck to get the Stop command 5 frames before the end of the AVI file. This assumes that it takes 5 frames of time for the DV deck to actually disengage the recording head and stop recording.

Record Position on Tape Steps

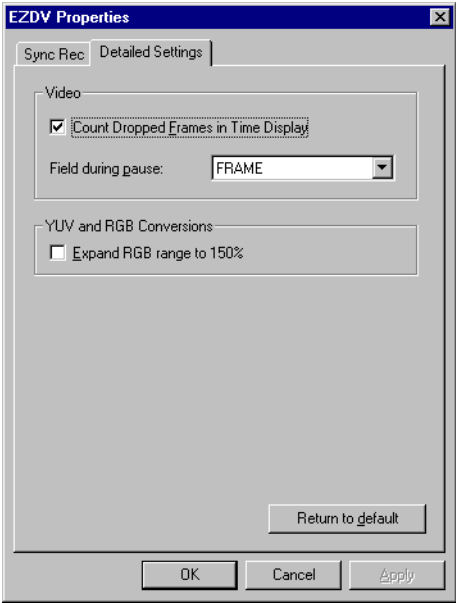
Sets the default recording position when SyncRecording from a paused frame. The default is for recording to start at the paused frame.

Return to default button
Returns the settings for this tab to the defaults.

OK button Apply the current Sync Rec and Detailed Settings settings and close the window.

Cancel button
Cancel the current changes to the Sync Rec and Detailing Settings settings and close the window.

EZDV properties... - Detailed Settings



Video
Count Dropped Frames in Time Display checkbox (NTSC only)
When checked, 29.97 fps drop-frame timecode is used.
When unchecked, 30 fps non-drop-frame timecode is used.

This option affects all timecode entry and calculations.
Except in special cases, this option should be checked.

Field during pause**FRAME**

When AVI playback is paused, the frame (both fields) is shown.

There may be some jitter apparent in the display when FRAME is selected for pause. This does not affect DV output.

ODD

When AVI playback is paused, only the odd field is shown.

Use this option to eliminate jitter in the display on paused playback. This does not affect DV output.

EVEN

When AVI playback is paused, only the even field is shown.

Use this option to eliminate jitter in the display on paused playback. This does not affect DV output.

YUV and RGB Conversions**Expand RGB range to 150% checkbox**

When checked, the luminance and chrominance ranges are increased during conversion to RGB.

When unchecked, the standard DV Blue Book conversion method (which limits the RGB range) is used.

This option has no effect on programs which edit in YUV colorspace, such as EZ Edit. However, for programs which use RGB colorspace, setting this option may help increase the video quality of AVIs created in those programs.

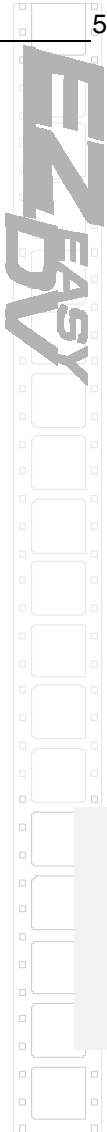
Return to default button

Returns the settings for this tab to the defaults.

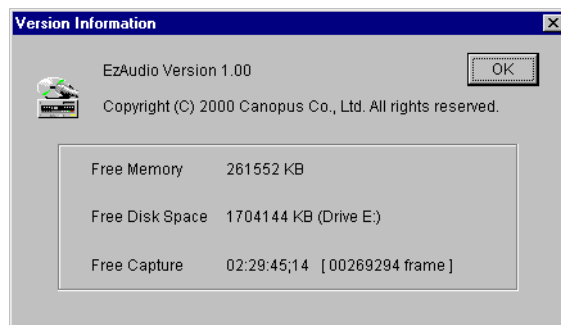
OK button Apply the current Sync Rec and Detailed Settings settings and close the window.

Cancel button

Cancel the current changes to the Sync Rec and Detailing Settings settings and close the window.



About



Free Memory Displays the amount of free memory in the system.

Free Disk Space

Displays the amount of free disk space on the temporary drive.

Free Capture Time

Displays the amount of video that can be stored on the drive listed for Free Disk Space, in hours, minutes, seconds, and frames, and in frame count.



EZ Navi

Introducing EZ Navi

This chapter will introduce you to EZ Navi, the automatic tape scanning and scene logging component of the EZDV software.

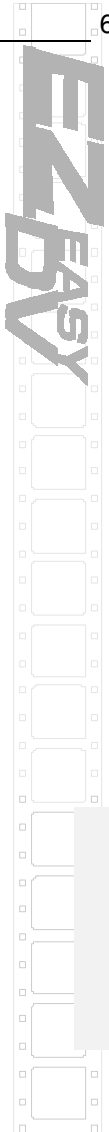
The features of EZ Navi will be described to familiarize you with its functions.

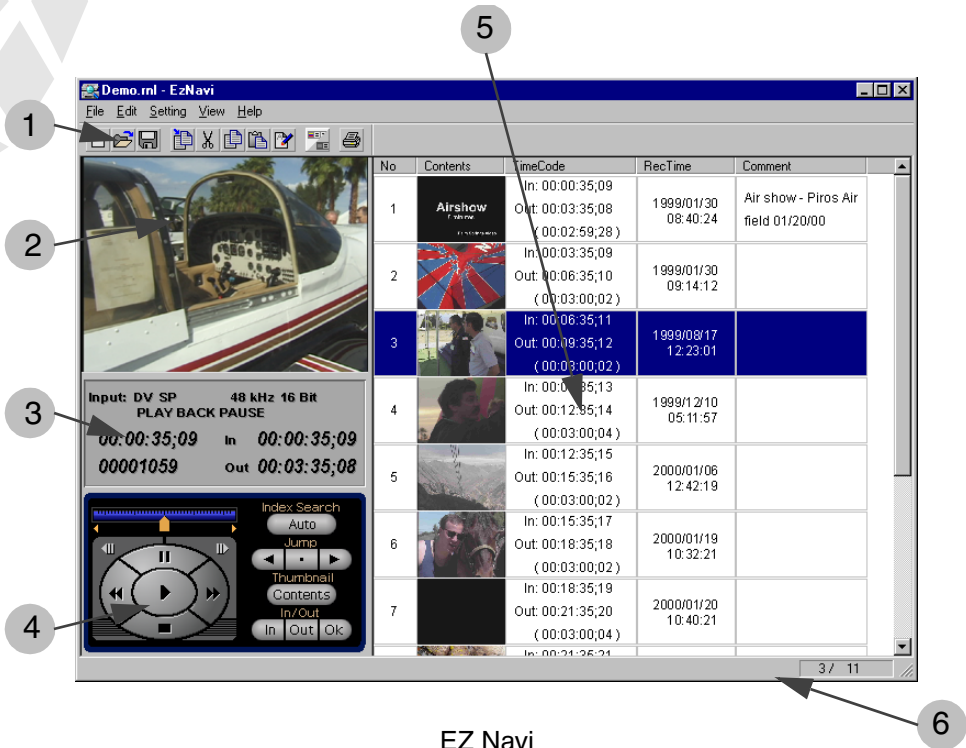
EZ Navi Interface

The EZ Navi application allows you to control your DV or Digital 8 camera or deck and can automatically scan through your DV or Digital8 tapes to identify clips. It provides playback of video on the computer screen, camera/deck control, scene list generation and batch capture list generation.

The EZ Navi window consists of seven main sections:

1. Toolbar - includes shortcut buttons for commonly used menu items
2. Video area - shows the video coming from your DV or Digital 8 device.
3. Deck information area - displays information about the status of the DV device.
4. Deck controller - contains a shuttle slider and controls for playback of the connected DV device.
5. Scene list - contains a list of clips that EZ Navi found on your tape.





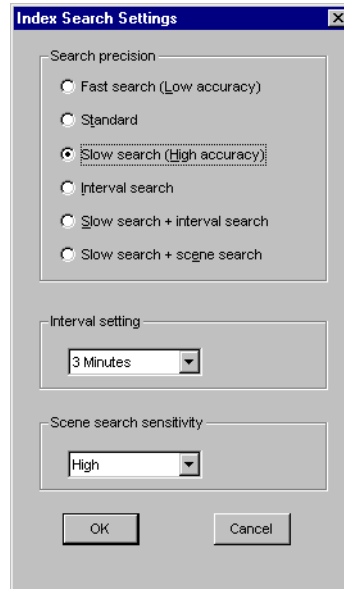
EZ Navi

6. Status bar - lists information about the DV device, play list, and also displays the function of the button the mouse cursor is over.

Choosing a Scan Method

There are six methods of scanning the tape for scenes. Which method you choose will largely depend on how your

footage was shot as well as how much time you have to let EZ Navi run.



In most cases, Standard or Slow search mode will be sufficient. For more a detailed explanation of each mode, please see the Dialogs section later in this chapter.

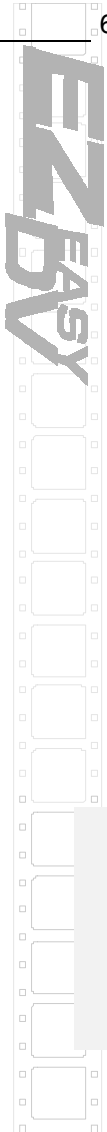
Scanning for Scenes

Since multiple takes or tapings can be on the same tape, a useful step in video production is to identify different scenes on a tape and create a list of those scenes. EZ Navi can do this for you automatically and generate a scene list for you. You can also edit the generated list and manually add scenes to it.

Indexing an entire tape

To have EZ Navi scan your tape and generate a scene list automatically, follow these simple steps:

1. Insert a tape with footage into your DV camera or deck.



- Click the **Search Start** button in the Index Search area of the Deck controller. EZ Navi will rewind the tape and start scanning it. Clips will appear in the scene list as EZ Navi identifies them.



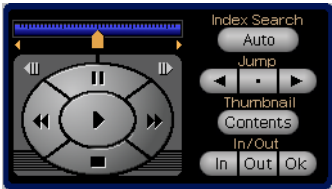
Click the Search Start button

Indexing from a particular point

Sometimes it is useful to generate a scene list starting from a particular point on the tape instead of from the entire tape.

To have EZ Navi scan your tape from a particular point instead of beginning of the tape:

- Position the tape at the point where you want to start indexing using the Deck controller.
- Hold down the Shift key and click the **Search Start** button. EZ Navi start scanning the tape. Clips will appear in the scene list as EZ Navi identifies them



Position the tape where you want to start indexing



Hold down the Shift key and click the **Search Start** button

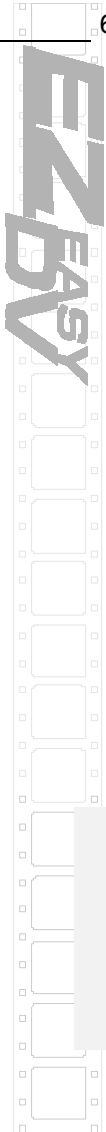
Important note about Timecode

If your tape has discontinuous timecode, or timecode that repeats the same value, you may have problems using EZ Navi. EZ Navi may not be able to pre-roll the deck if it rewinds beyond the zero point and into previous timecode.

Thus, it is very important to keep timecode continuous on your tape. It is a common practice to “black” or “stripe” new tapes by recording black over the entire tape in one pass to establish continuous timecode.

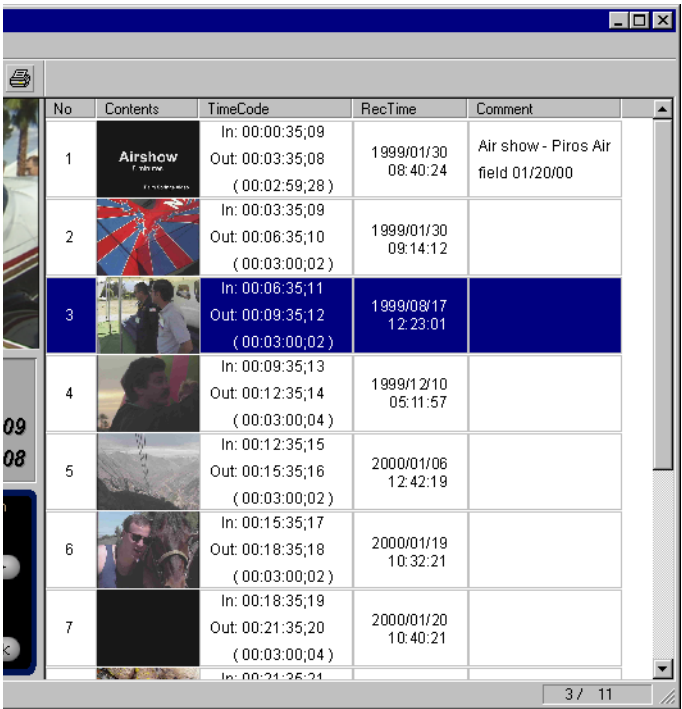
Timecode is normally reset when the tape is removed from the camera. If you have to remove and reinsert a tape without timecode while recording, after reinserting the tape, rewind it to a point where there is timecode, and continue recording from that point.

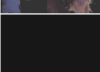
Also, it is good practice to record 10-20 seconds of black “leader” at the beginning of each tape.



Working with the Scene list

The scene list displays a list of scenes EZ Navi has logged.



No	Contents	TimeCode	RecTime	Comment
1	 Airshow	In: 00:00:35;09 Out: 00:03:35;08 (00:02:59;28)	1999/01/30 08:40:24	Air show - Piro's Air field 01/20/00
2		In: 00:03:35;09 Out: 00:06:35;10 (00:03:00;02)	1999/01/30 09:14:12	
3		In: 00:06:35;11 Out: 00:09:35;12 (00:03:00;02)	1999/08/17 12:23:01	
4		In: 00:09:35;13 Out: 00:12:35;14 (00:03:00;04)	1999/12/10 05:11:57	
5		In: 00:12:35;15 Out: 00:15:35;16 (00:03:00;02)	2000/01/06 12:42:19	
6		In: 00:15:35;17 Out: 00:18:35;18 (00:03:00;02)	2000/01/19 10:32:21	
7		In: 00:18:35;19 Out: 00:21:35;20 (00:03:00;04)	2000/01/20 10:40:21	

Scene list

Each scene is listed with its In point, Out point, and Duration. If the recording timestamp is available, it will also be listed, along with an optional user-defined comment.

Selecting and Moving clips

You can select a clip in the scene list by clicking on it to highlight it.

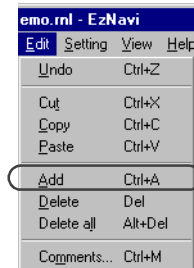
To change a clip's position, click on it and drag it to the desired position. A little line will show you the new insertion point.

Viewing scenes

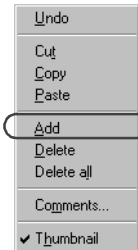
To cue the tape to a clip, double-click on the clip in the scene list.

Adding scenes

You can add a new scene by choosing **Add** from the Edit menu, or by right-clicking in the Scene list and choosing **Add** from the pop-up menu. A new scene with the selected In and Out points will appear in the Scene list.



Choose **Add** from the Edit menu



Or **Add** from the right-click pop-up menu

Redefining scenes

You can redefine a scene by changing its In and Out points. To redefine a scene:

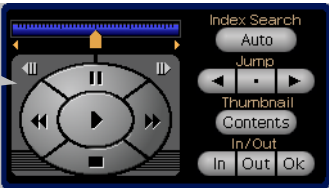
1. Select a scene from the Scene list.

No	Contents	TimeCode	RecTime	Comment
1	Airshow	In: 00:00:35,09 Out: 00:03:35,08 (00:02:59,28)	1999/01/30 08:40:24	Air show - Piros Air field 01/20/00
2		In: 00:03:35,09 Out: 00:06:35,10 (00:03:00,02)	1999/01/30 09:14:12	
3		In: 00:06:35,11 Out: 00:09:35,12 (00:03:00,02)	1999/08/17 12:23:01	
4		In: 00:09:35,13 Out: 00:12:35,14	1999/12/10 05:11:57	

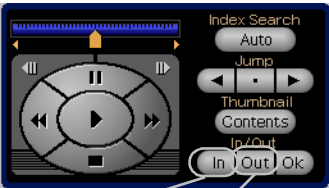
Select a scene

- 2. Use the Deck controller to locate the new In or Out point.

Use the Deck controller to locate a new In or Out point.



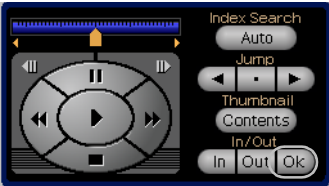
- 3. Click the **In** button on the In/Out section of the Deck controller to mark the new In point, or click the **Out** button on the In/Out section of the Deck controller to mark the new Out point.



Mark new In point

Mark new Out point

- 4. Click the **Ok** button on the In/Out section of the Deck controller to update the scene in the Scene list with the new In and Out points.

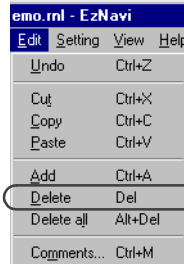


Click Ok to update the In/Out points

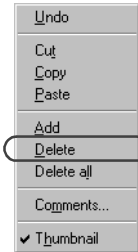
Note: Clicking **Ok** with no scene selected will add a new scene with the specified In and Out points to the scene list.

Deleting scenes

You can delete a scene you don't want by selecting it and choosing **Delete** from the Edit menu, or by right-clicking the scene and choosing **Delete** from the pop-up menu.

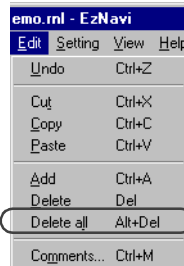


Choose **Delete** from the Edit menu

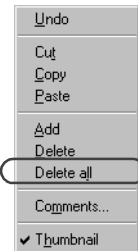


Or **Delete** from the right-click pop-up menu

You can delete the entire scene list by choosing **Delete all** from the Edit menu, or by right-clicking in the Scene list and choosing **Delete all** from the pop-up menu.



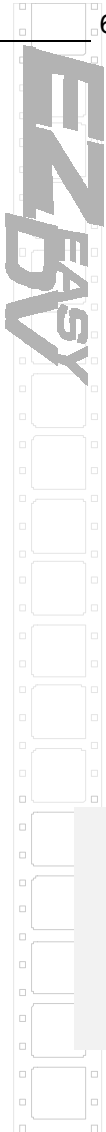
Choose **Delete all** from the Edit menu



Or **Delete all** from the right-click pop-up menu

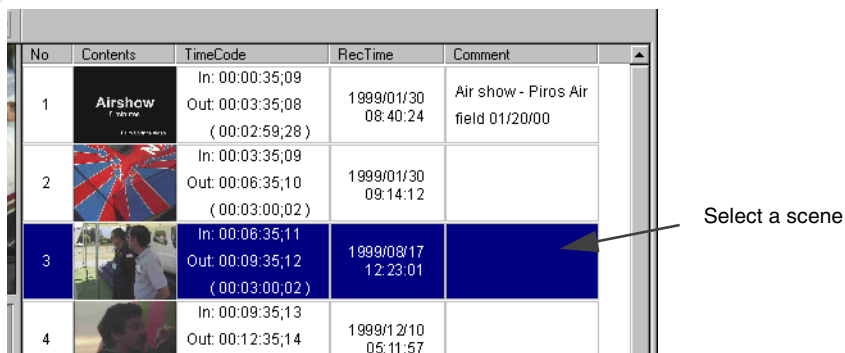
Adding Comments to scenes

EZ Navi also lets you add comments to each scene on the scene list. These comments appear next to the clip and thumbnail when the scene list is printed.

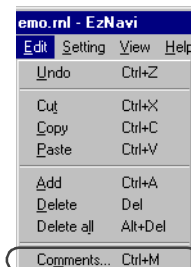


To add a comment to a scene

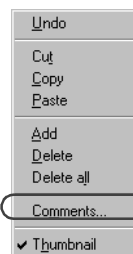
1. Select a scene from the Scene list.



2. Choose **Comments...** from the Edit menu, or right-click the scene and choose **Comments...** from the pop-up menu.



Choose **Comments...** from the Edit menu



Or **Comments...** from the right-click pop-up menu

Saving and Loading Scene lists

To save your Scene list:

1. Choose **Save** from the File menu.

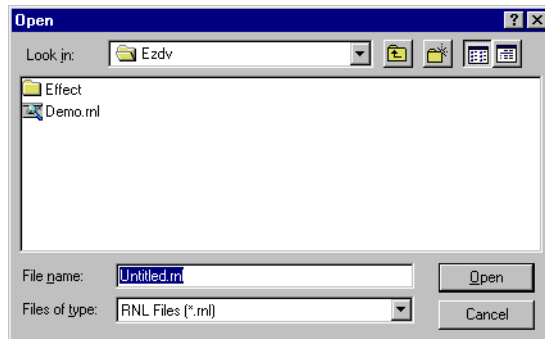


2. If you have not already saved the Scene list, the Save As window will appear. Give the scene list a name and click **Save**. The Scene list will be saved for future use.



To load an existing Scene list:

1. Choose **Open** from the File menu.



2. Find the RNL file you want to load and click **Open**. The scenes stored in the file will appear in the Scene list.

Capturing your clips

You can take your EZ Navi scene list to EZ Video batch capture for capture.

Just save your scene list (RNL file) from EZ Navi, open EZ Video, then load the RNL file in EZ Video batch capture.

Interface In-depth

Toolbar

The toolbar contains buttons for many commonly used menu items.



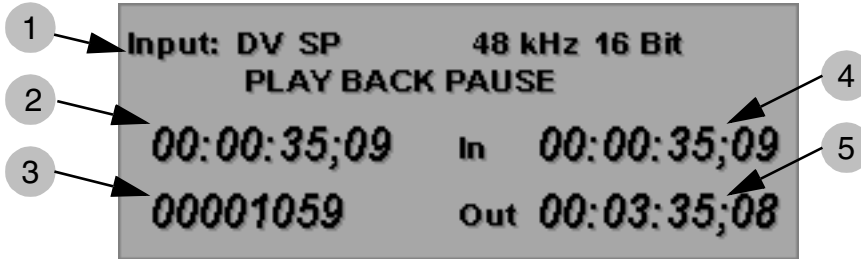
Toolbar

The functions of the toolbar buttons are as follows:

	New	Specifies that a new scene list file is to be created. The current scene list will be cleared.
	Open	Opens a scene list file.
	Save	Save the current scene list.
	Add	Add a new scene with the specified In and Out point to the Scene list.
	Cut	Cuts the selected scene from the Scene list and puts it on the clipboard.
	Copy	Copies the selected scene to the clipboard.
	Paste	Pastes the scene on the clipboard to the scene list.
	Comment	Opens the Comment dialog to edit the comment for the selected scene.
	Show or hide the thumbnail	Toggles display of thumbnails in the scene list.
	Print list	Prints the scene list to the printer.

Deck Information

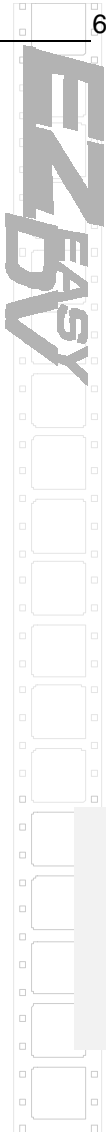
The deck information area displays information about the loaded AVI file and the connected DV device.



Deck Information

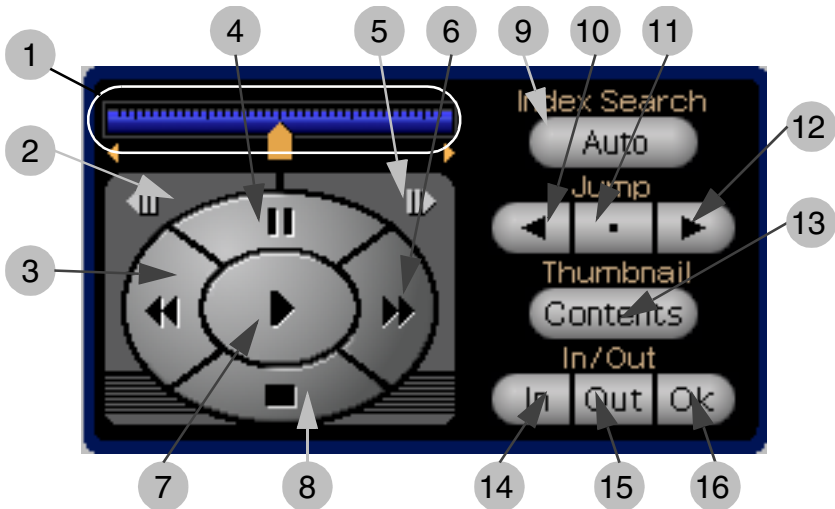
The information in the Deck Information area is as follows:

1. Input tape mode (SP/LP), Audio sampling rate, and deck status
2. Current time position in hours, minutes, seconds, and frames
3. Current time position in frames
4. Current In point
5. Current Out point



Deck Controller

The Deck controller lets you control the connected DV deck through the i.LINK interface.



- 1. Shuttle controller**
The shuttle controller lets you play the tape forward or backward at varying speeds.
There are five stops on either side of the middle.
Drag the yellow slider to the left to play backward, drag it to the right to play forward.
The playback speeds will depend on your DV deck, but the stops are generally 1/10 speed, 1/5 speed, 1x, 2x, and 20x.
- 2. Previous frame**
Moves the DV deck one frame back.
- 3. Rewind**
Pressed when the DV deck is stopped, it will rewind the tape.
Pressed when the DV deck is playing, it will go into reverse-scan mode.
- 4. Pause**
Pauses the DV deck
- 5. Next frame**
Moves the DV deck one frame forward.
- 6. Forward**
Pressed when the DV deck is stopped, it will fast-forward the tape.
Pressed when the DV deck is playing, it will go into forward-scan mode.
- 7. Play**
Plays the tape in the DV deck.
- 8. Stop**
Stops the tape in the DV deck.

9. Search Start

Rewind the DV deck and start scanning the tape for scenes.
Hold down Shift when clicking the button to start scanning from the current position.

10. Jump to previous index

Rewinds the DV deck to the previous index point.

11. Jump to timecode location

Opens the Jump dialog to move the tape to a particular timecode or frame location.

12. Jump to next index

Advances the DV deck to the next index point.

13. Set Contents

Sets the current preview image to be the thumbnail for the selected scene.

14. Set In point

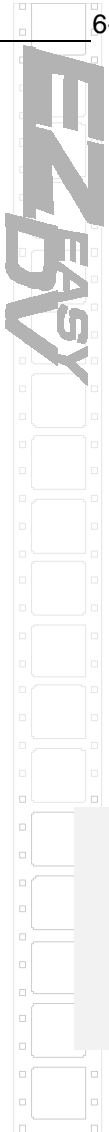
Sets the current frame as the In point for the scene.

15. Set Out point

Sets the current frame as the Out point for the scene.

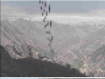
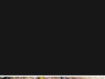
16. Update In/Out points

Updates the selected scene with the specified In and Out points.
If there is no scene selected, a new scene with the specified In and Out points will be added to the Scene list.



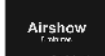
Scene List

The Scene list displays scenes detected on the tape.

No	Contents	TimeCode	RecTime	Comment
1		In: 00:00:35,09 Out: 00:03:35,08 (00:02:59,28)	1999/01/30 08:40:24	Air show - Piros Air field 01/20/00
2		In: 00:03:35,09 Out: 00:06:35,10 (00:03:00,02)	1999/01/30 09:14:12	
3		In: 00:06:35,11 Out: 00:09:35,12 (00:03:00,02)	1999/08/17 12:23:01	
4		In: 00:09:35,13 Out: 00:12:35,14 (00:03:00,04)	1999/12/10 05:11:57	
5		In: 00:12:35,15 Out: 00:15:35,16 (00:03:00,02)	2000/01/06 12:42:19	
6		In: 00:15:35,17 Out: 00:18:35,18 (00:03:00,02)	2000/01/19 10:32:21	
7		In: 00:18:35,19 Out: 00:21:35,20 (00:03:00,04)	2000/01/20 10:40:21	

Scene list

Each clip is listed with its In point, Out point, Duration, Date/Time of Recording (if available), and Comment (if set).

No	Contents	TimeCode	RecTime	Comment
1		In: 00:00:35,09 Out: 00:03:35,08 (00:02:59,28)	1999/01/30 08:40:24	Air show - Piros Air field 01/20/00

Menu options

File menu



Recent file list

New Specifies that a new scene list file is to be created. The current scene list will be cleared.

Open Opens a scene list file.

Save Save the current scene list.

Save as... Save the current scene list as a new file.

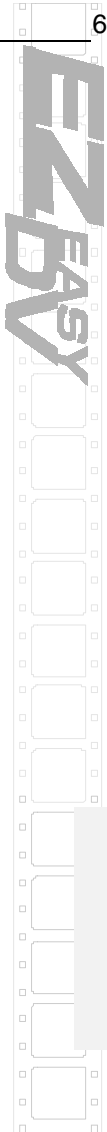
Print Print the current scene list.

Print preview
Opens a print preview for the current scene list.

Print settings...
Opens the settings dialog for the printer.

Recent file list
Provides quick opening of recent files.

Exit
Quits the EZ Navi application.



Edit menu



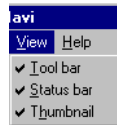
- Undo** Undo the last action performed.
- Cut** Cuts the selected scene from the Scene list and puts it on the clipboard.
- Copy** Copies the selected scene to the clipboard.
- Paste** Pastes the scene on the clipboard to the scene list.
- Add** Adds a new scene with the specified In and Out points to the scene list.
- Delete** Deletes the selected scene from the scene list.
- Delete all** Deletes all scenes from the scene list.
- Comments...** Opens the comments dialog to edit the comments for the selected scene.

Setting menu



- Index search...** Opens the Index search dialog to set the scanning method.
- Deck control...** Opens the Deck control dialog to set deck options.
- EZDV properties...** Opens the EZDV properties dialog.

View menu

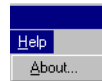


Toolbar Toggles display of the Tool bar.

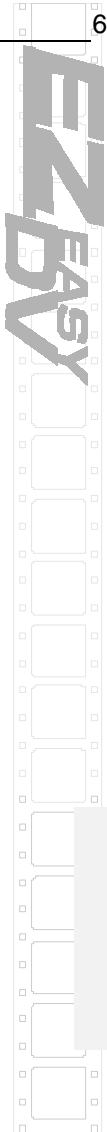
Status bar Toggles display of the Status bar

Thumbnail Toggles display of Content thumbnails in the scene list.

Help menu

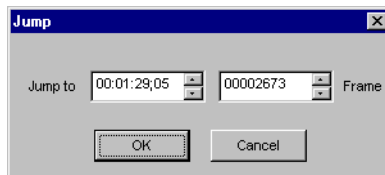


About Opens the About dialog to display software version information.



Dialogs

Jump

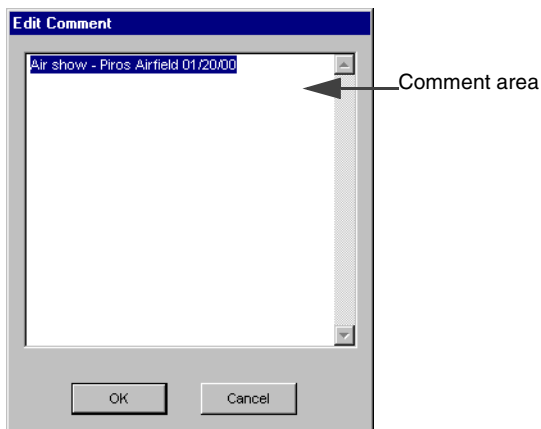


Jump to Set the timecode or frame number to jump to.

OK button Position the tape at the specified timecode or frame number.

Cancel Cancel and close the Jump dialog.

Comments...



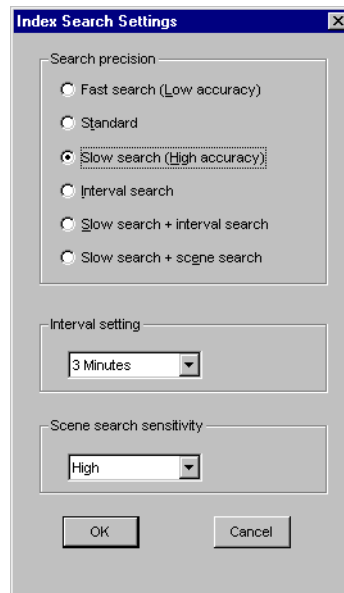
Comment area

Enter and edit comments here.

OK button Accept the changes to the comment and close the Comments... dialog.

Cancel Cancel the changes to the comment and close the Comments... dialog.

Index search...



Search precision

Fast search (Low accuracy)

Performs a fast speed index search. While it goes through the tape quickly, it is not very accurate and can often miss scene changes.

Standard

Performs a standard speed search at normal playback speed.

Slow search (High accuracy)

Performs a slow speed index search. While it takes more time, this method is very accurate.

Interval search

Performs an interval search. Essentially, this cuts the video into equal pieces based on the interval setting.

Slow search + interval search

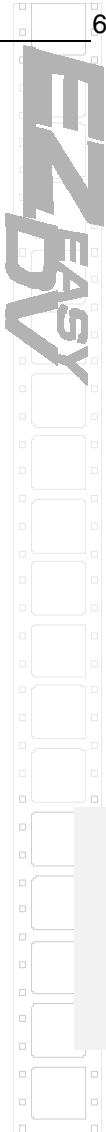
Performs a slow search combined with interval search.

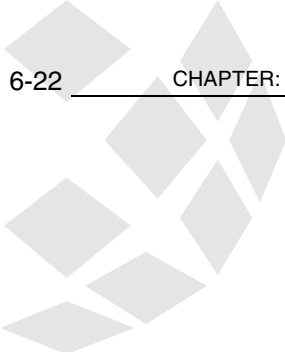
Slow search + scene search

Performs a slow search combined with a image-based scene detection search. This is the slowest method, but will yield the most clips. Set the scene search sensitivity in the Scene search sensitivity box.

Interval setting (Interval search and Slow search + interval search only)

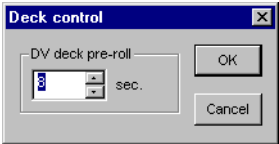
Sets the time interval for scenes to be generated with Interval search and Slow search + interval search.





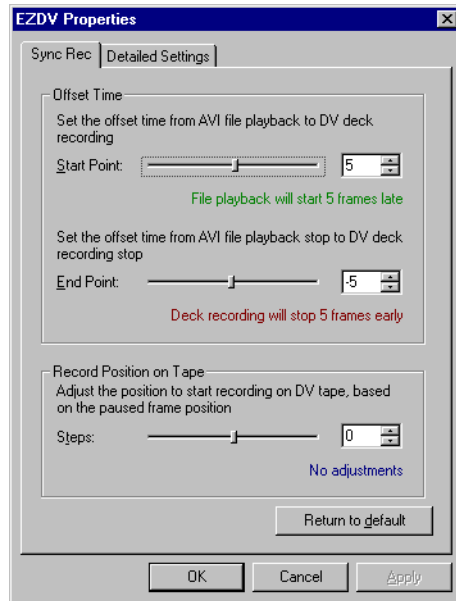
- Scene search sensitivity** (Slow search + scene search only)
Sets the sensitivity for scene search. The higher the sensitivity, the greater the number of potential scenes detected.
- OK button** Accept the changes to the Index Search Settings and close the Index Search Settings dialog.
- Cancel** Cancel the changes to the Index Search Settings and close the Index Search Settings dialog.

Deck control...



- DV deck pre roll**
Specifies the number of seconds to roll the DV deck before indexing starts.
- OK button** Accept the changes to the Deck control settings and close the Deck control settings dialog.
- Cancel** Cancel the changes to the Deck control settings and close the Deck control settings dialog.

EZDV properties... - Sync Rec



Offset Time

Start Point

Sets the number of frames early or late that AVI file playback should occur when doing a SyncRecord.

The default is for the AVI file to start playing 5 frames after the DV deck has been set to start recording. This assumes that it takes 5 frames of time for the DV deck to actually engage the recording head and start recording.

End Point

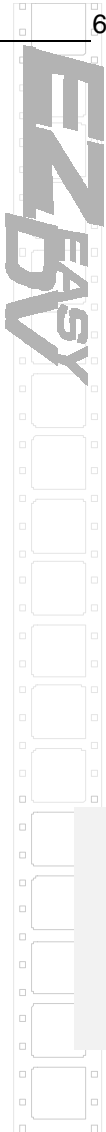
Sets the number of frames early or late that the DV deck should stop recording.

The default is for the DV deck to get the Stop command 5 frames before the end of the AVI file. This assumes that it takes 5 frames of time for the DV deck to actually disengage the recording head and stop recording.

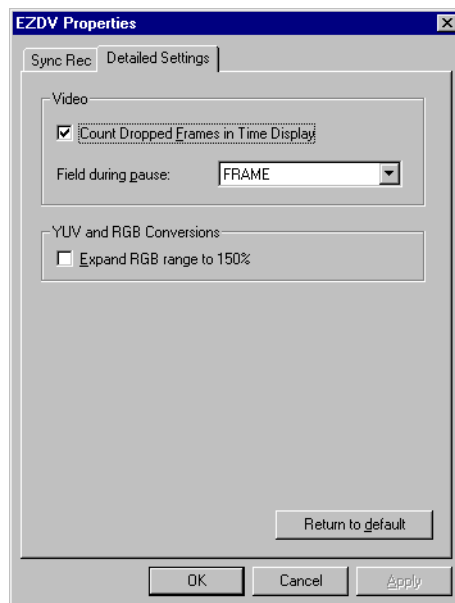
Record Position on Tape

Steps

Sets the default recording position when SyncRecording from a paused frame. The default is for recording to start at the paused frame.



EZDV properties... - Detailed Settings



Video

Count Dropped Frames in Time Display checkbox (NTSC only)

When checked, 29.97 fps drop-frame timecode is used.

When unchecked, 30 fps non-drop-frame timecode is used.

This option affects all timecode entry and calculations.

Except in special cases, this option should be checked.

Field during pause

FRAME

When AVI playback is paused, the frame (both fields) is shown.

There may be some jitter apparent in the display when FRAME is selected for pause. This does not affect DV output.

ODD

When AVI playback is paused, only the odd field is shown.

Use this option to eliminate jitter in the display on paused playback. This does not affect DV output.

EVEN

When AVI playback is paused, only the even field is shown.

Use this option to eliminate jitter in the display on paused playback. This does not affect DV output.

YUV and RGB Conversions

Expand RGB range to 150% checkbox

When checked, the luminance and chrominance ranges are increased during conversion to RGB.

When unchecked, the standard DV Blue Book conversion method (which limits the RGB range) is used.

This option has no effect on programs which edit in YUV colorspace, such as EZ Edit. However, for programs which use RGB colorspace, setting this option may help increase the video quality of AVIs created in those programs.

Return to default button

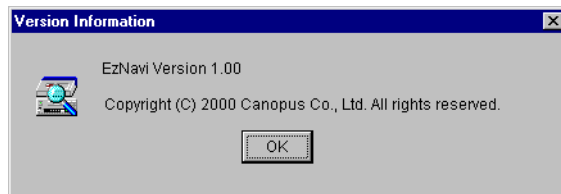
Returns the settings for this tab to the defaults.

OK button Apply the current Sync Rec and Detailed Settings settings and close the window.

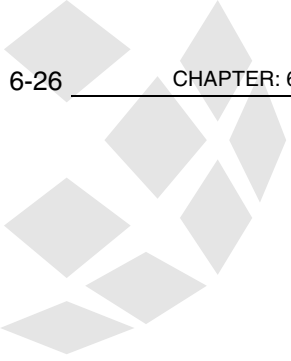
Cancel button

Cancel the current changes to the Sync Rec and Detailing Settings settings and close the window.

About...



OK button Close the About dialog.





EZ Edit

Introducing EZ Video

This chapter will introduce you to EZ Edit, the editing component of the EZDV software.

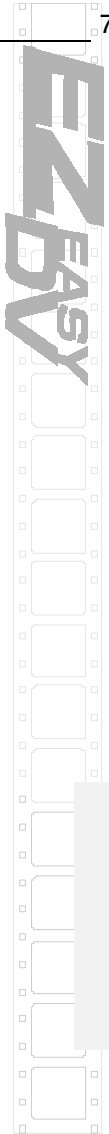
The features of EZ Edit will be described to familiarize you with its functions.

EZ Edit Interface

The EZ Edit application allows you to edit and output your captured video. It provides playback of video on the computer screen, titling, transitions, camera/deck control, and output capabilities.

The EZ Edit window consists of eight main sections:

1. **Toolbar** - includes shortcut buttons for commonly used menu items
2. **Video area** - shows the video coming from, or going out to, your DV or Digital 8 device. Playback of the timeline also appears here.
3. **Timeline** - displays video clips, transitions, audio clips, and titles used in the production.
4. **Deck controller** - contains a shuttle slider and controls for playback of the connected DV device. There are also SyncRecord and Record buttons to start recording on the connected DV device.
5. **DV Bin** - contains video, audio, and bitmap clips to use in the production.
6. **AVI controller** - contains buttons to control playback of the loaded AVI file, a button to start capture from the





EZ Edit

connected DV device, buttons for trimming, and a slider to scrub through the video.

- 7. Status bar - lists information about the DV device, time-line, and also displays the function of the button the mouse cursor is over.

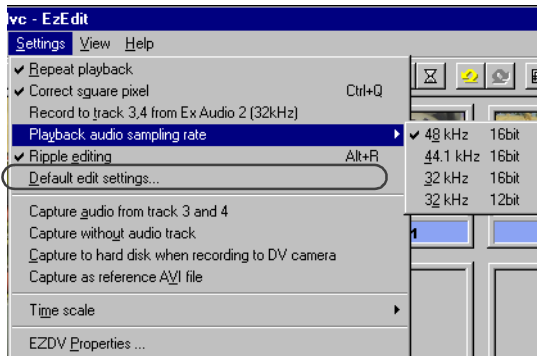
Setting the Temporary drives

The temporary drives are where rendered (processed) effects are stored. It is important that rendered effects are stored on a video-capable drive, or they may not render correctly.

Before starting to edit, you need to make sure the temporary drives are set to your video hard disks.

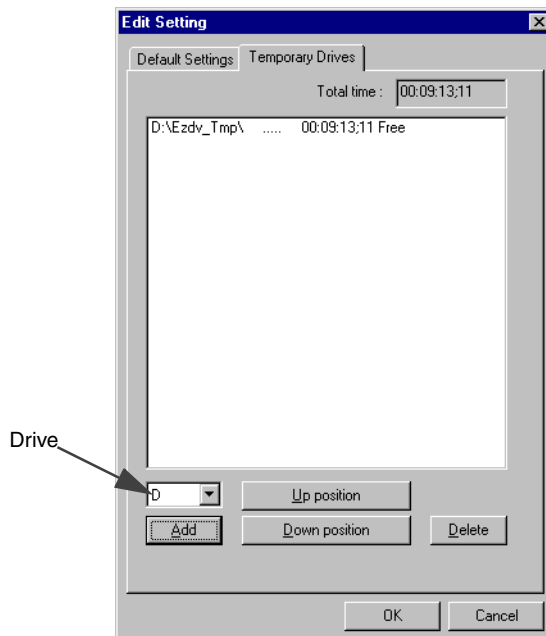
To set the Temporary drives, follow these steps.

1. Open EZ Edit.
2. Choose **Default edit settings...** from the Settings menu.



Choose Default edit settings from the Settings menu

3. In the Default settings dialog, select the **Temporary Drives** tab.



Temporary Drives setting

4. Select your video drive from the Drive drop-down.

5. Click the **Add** button. The drive you specified will appear in the list. If you have multiple video drives, you can add them here and as each gets filled, the next one will be used.



6. Once you set the temporary drives, EZ Edit will remember the setting until you uninstall or reinstall the software.

Loading clips to edit

Before you can work with any audio, video, or bitmaps in EZ Edit, you need to make them available. You can make them available by loading them into the DV Bin.

Follow the steps below to load a clip into the DV Bin.

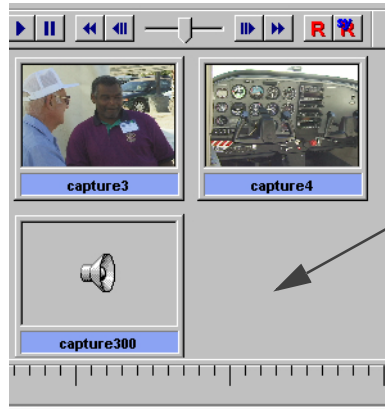
1. Open the **Add clip to bin window** dialog by clicking the **Add clip to bin window** button on the toolbar, by dou-

ble-clicking a blank area in the DV Bin, or by choosing **Add clip to bin window...** from the File menu.

Click the Add clip to bin window button on the Toolbar

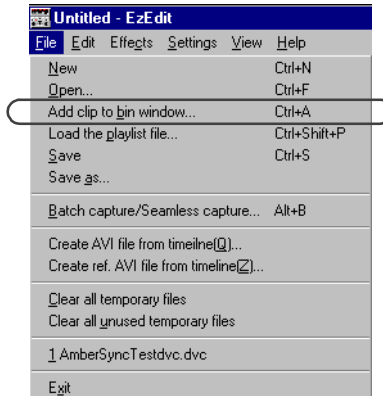


Or double-click a blank area in the DV Bin

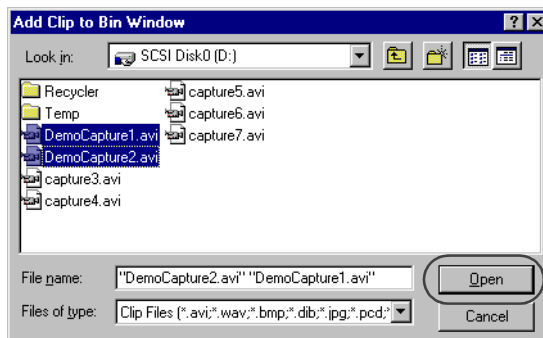


Double-click a blank area

Or choose Add clip to bin window from the File menu



- The Add clip to bin window dialog will appear. Select one or more files to load and click the **Open** button.



- The clip(s) you selected will appear in the DV Bin.

Supported clip types

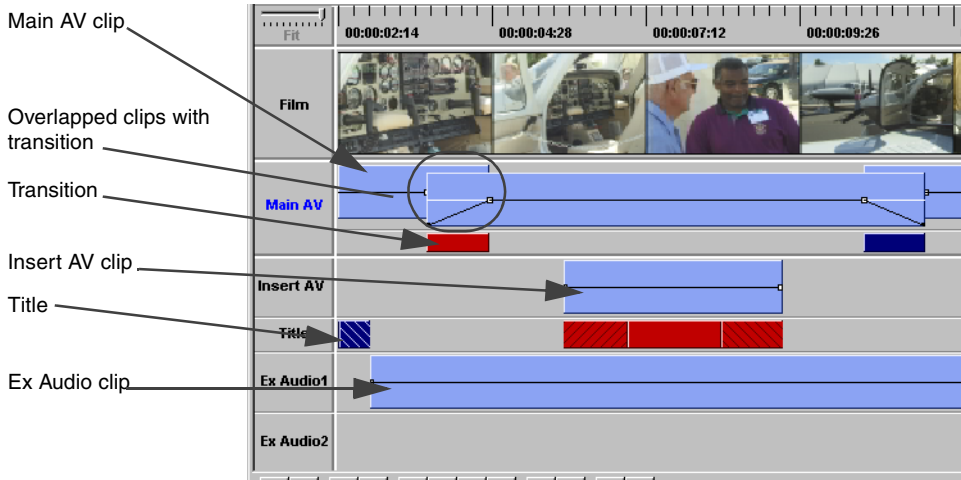
EZ Edit supports the following types of files as clips:

- AVI files compressed with Canopus DV CODEC, frame size 720x480 (NTSC EZDV)
- AVI files compressed with Canopus DV CODEC, frame size 720x576 (PAL EZDV)
- WAV files at 32 kHz, 16-bit, stereo
- WAV files at 44.1 kHz, 16-bit, stereo
- WAV files at 48 kHz, 16-bit, stereo
- BMP (.BMP, .DIB) still images
- JPEG (.JPG, .JPEG) still images
- Tagged Image File format (.TIF, .TIFF) still images
- Adobe Photoshop PSD (.PSD) still images
- TARGA (.TGA, .TARGA) still images
- PhotoCD (.PCD) still images
- FlashPix (.FPX) still images
- Title Data File (.TDF) EZ Edit title data files

If you want to use files of other types in your project, you will need to convert them to one of the above types using a third-party program. EZ Edit will not accept other types of files.

The Timeline

The EZ Edit timeline has 5 tracks - Film and Main AV, Insert AV, Title, Ex Audio 1, and Ex Audio 2.



The Film track displays thumbnail views of the video on the Main AV and Insert AV tracks. This track can be turned off if you want.

The Main AV track is the main video track. You can drag video clips to this track and they will appear one-after-another. You can add effects or transitions between clips on this track.

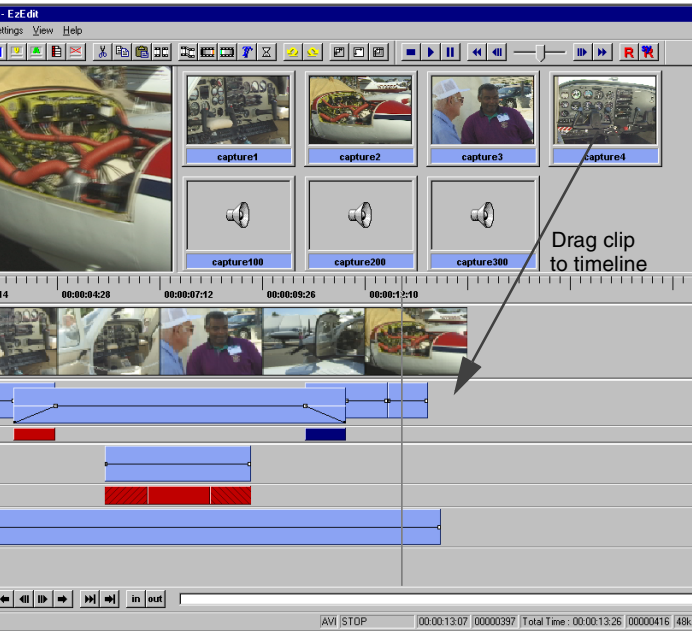
The Insert AV track is used for placing segments of video over the Main AV video. Video clips placed here will appear in place of the corresponding video on the Main AV track.

The Title track is used for placing titles over video.

The Ex Audio 1 and Ex Audio 2 tracks are used to add extra audio such as music to your production.

Add clips to the timeline

To add a clip from the DV Bin to the timeline, click on it and drag it to the timeline. It will be added or inserted where you drop it.

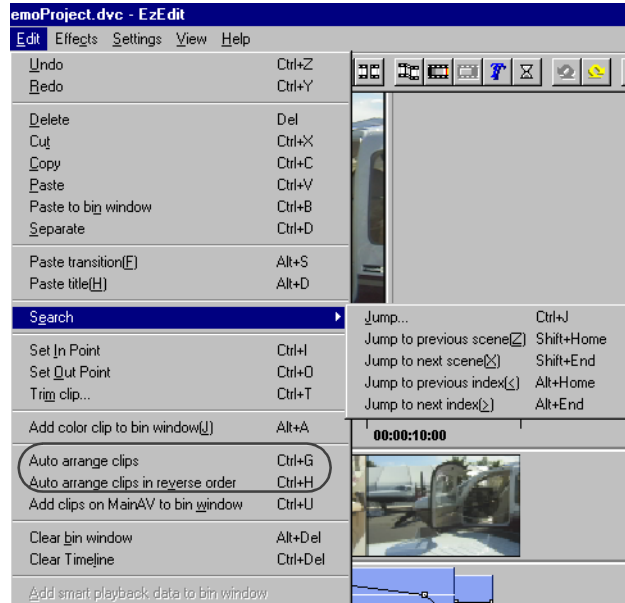


Video clips (AVI files) and still images (see above for supported file types) can be placed on the Main AV and Insert AV tracks.

Audio clips (WAV files) can be placed on the Ex Audio 1 and Ex Audio 2 tracks.

To move all the video clips from the DV Bin to the timeline in the order they appear in the bin, choose **Auto arrange clips** from the Edit menu. To put clips in reverse order,

choose **Auto arrange clips in reverse order**, from the Edit menu.



Clips appear as colored blocks in the timeline. Blue blocks represent clips with 48 kHz audio, green blocks represent clips with 44.1 kHz audio, and yellow blocks represent clips with 32 kHz audio.

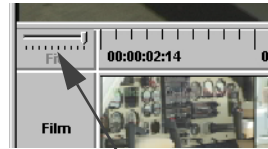
Controlling the timeline

Adjusting the time scale

Often times, you may want to view a zoomed-in or zoomed-out view of the timeline for fine adjustments or locating an interesting section.

The Timescale slider controls how the timeline is displayed. Slide it to the left to go down to a 1 frame view, or slide it to the right to go to a Fit view. The timeline can be viewed in 1 frame, 10 frame, 1 second, 2 second, 5 sec-

ond, 10 second, 15 second, 30 second, 1 minute, and Fit scale.

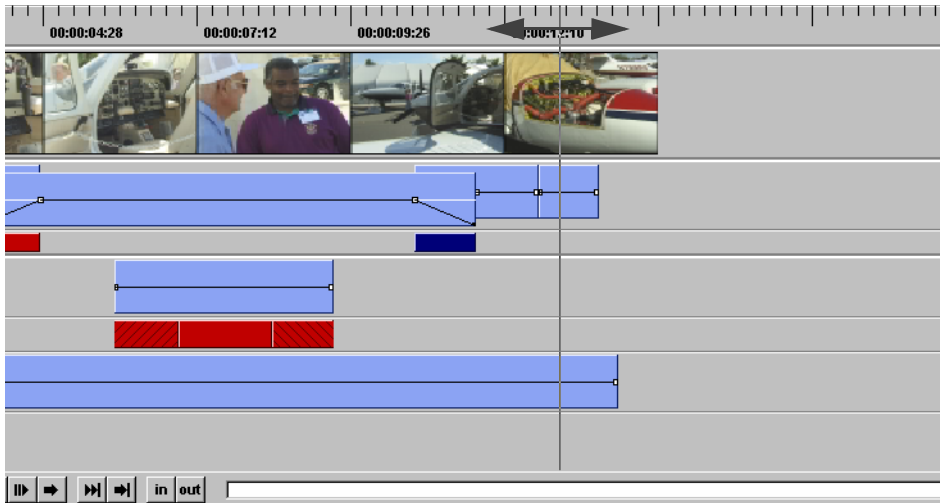


Timescale slider

Scrubbing

You can scrub through the timeline by clicking and dragging the mouse in the time display area.

Click and drag the mouse across the time display

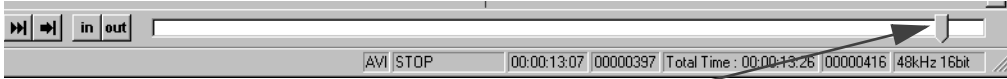


If you have an Intellimouse (or compatible), you can also use the scroll wheel to move frame-by-frame through the timeline. Roll the wheel down to step forward, and roll the wheel upward to step backward.

You can also use the **Next frame** and **Previous frame** buttons on the AVI controller to move from frame to frame.

Shuttling

You can use the Shuttle bar on the AVI controller to shuttle through video. Click the slider and drag it to quickly move through the video.



Click and drag the slider to shuttle quickly through video

To shuttle through video using an Intellimouse (or compatible), click the wheel to go into Shuttle mode. Roll the wheel down to shuttle forward. Roll the wheel up to shuttle in reverse. The shuttle speeds are: 1/4 speed, 1/2 speed, 1x speed, 2x speed, 4x speed, 8x speed, 10x speed, 20x speed, and 40x speed.

Playing

You can play the timeline by hitting the Spacebar, or using the controls on the AVI controller.

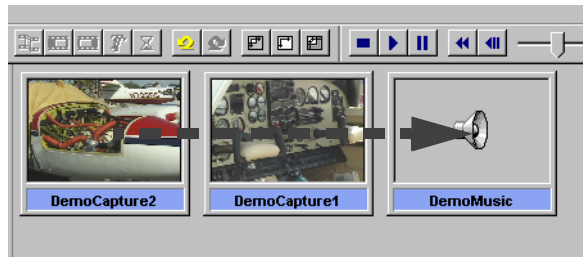


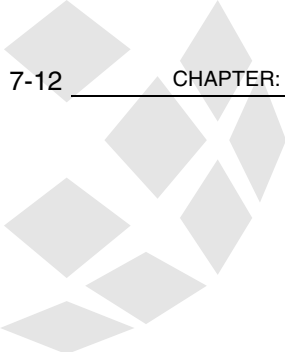
AVI controller

Working with Clips in the DV Bin

Arranging clips

To move a clip in the DV Bin, click on it and drag it over the clip you want to move it before, then release the mouse button.





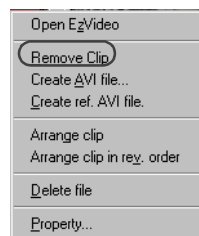
Trimming clips

A clip in the bin is just a reference to a start and end point in an AVI (or WAV) file. Thus, multiple clips in the bin can point to different sections of the same AVI (or WAV) file.

You can trim a clip in the bin by double-clicking the clip or right-clicking it and choosing **Open EZ Video** (or **Open EZ Audio**) to open the clip in EZ Video (or EZ Audio) for trimming.

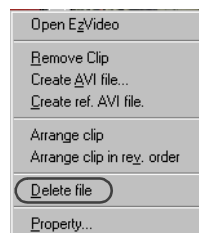
Removing clips

To remove a clip from the DV Bin, right-click on it and choose **Remove clip**.



Deleting clips from the hard drive

You can delete a clip from the hard drive by right-clicking on it and choosing **Delete file**.



Be very careful when using this option, as the file cannot be undeleted!

Working with Video Clips in the Timeline

Arranging clips

To move a clip on the timeline, click on it and drag it to a new position. You can also cut and paste clips using the **Cut**, **Copy**, and **Paste** buttons on the toolbar.



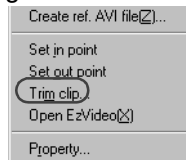
Cut, Copy, and Paste buttons

Trimming clips

A video clip in the timeline is just a reference to a start and end point in an AVI file. Thus, multiple clips in the timeline can point to different sections of the same AVI file.

You can trim a clip on the timeline in one of four ways:

1. Drag the end of the clip using the mouse.
2. Right-click on the clip and choose **Trim clip** to bring up the trimming dialog.



3. Double-click the clip or right-click it and choose **Open EZ Video** to open the clip in EZ Video for trimming.
4. Move the timeline cursor to the desired in or out point and click the **In** or **Out** button on the AVI controller.



Any of the methods will work, it's just a matter of individual preference and situation. If you know the timecode you want to trim at, the trimming dialog is the most efficient. If you need to be precise and view the entire AVI file, opening the clip in EZ Video is the most effective. If you just need to shorten or lengthen the clip slightly, dragging the clip ends is the fastest.

Separating clips

You can separate a video clip into two clips by positioning the timeline cursor at the point you want to separate the clip, then clicking the **Separate** button on the toolbar, or by right-clicking on the clip and choosing **Separate** from the pop-up menu.

Click the Separate button on the toolbar

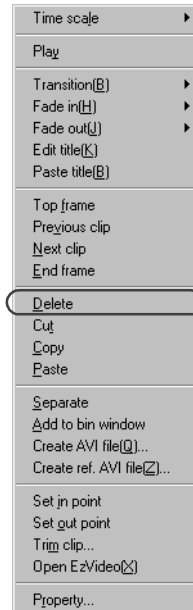


Or choose Separate from the right-click menu



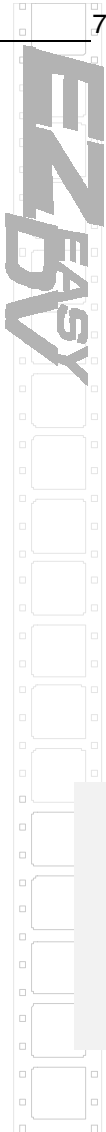
Removing clips

To remove a clip from the timeline, right-click on it and choose **Delete**.

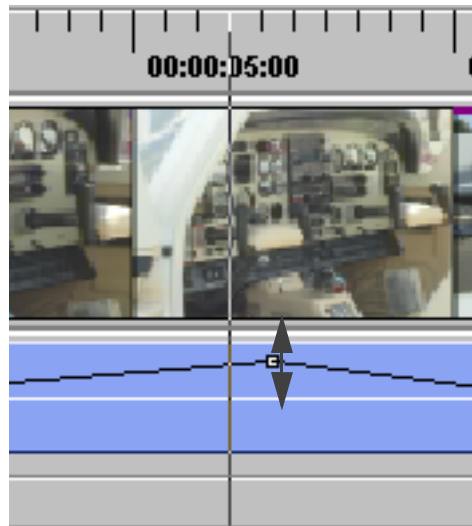
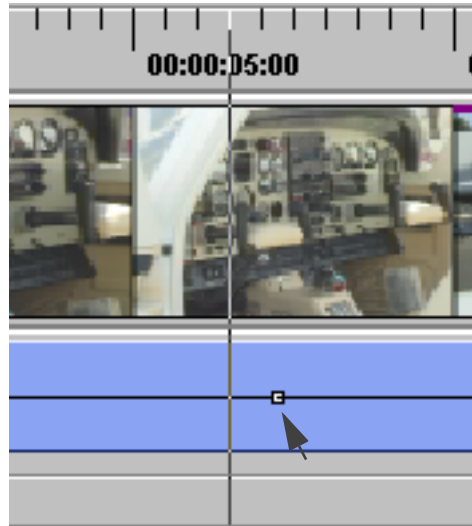


Adjusting Audio levels

The line in the middle of the clip represents its volume level. To adjust the audio levels of your clips, click on the



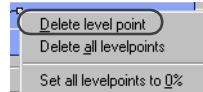
line to add a node, then drag the node up or down to adjust the level.



You can also adjust the levels of all the level points in a clip by holding down the **Shift** key, placing the mouse cursor over the audio line, and dragging up or down.

You can adjust the levels of all the clips in the Main AV track by holding down the **Shift** and **Control** keys, placing the mouse cursor over the audio line, and dragging up or down.

To delete an audio node, right-click on it and choose Delete level point.



Working with Audio clips in the Timeline

Arranging clips

To move a clip on the timeline, click on it and drag it to a new position. You can also cut and paste clips using the **Cut**, **Copy**, and **Paste** buttons on the toolbar.



Cut, Copy, and Paste buttons

Trimming clips

An audio clip in the timeline is just a reference to a start and end point in a WAV file. Thus, multiple clips in the timeline can point to different sections of the same WAV file.

You can trim an audio clip in the timeline by double-clicking the clip or right-clicking it and choosing **Open EZ Audio** to open the clip in EZ Audio for trimming.

Separating clips

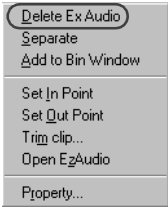
You can separate an audio clip into two clips by positioning the timeline cursor at the point you want to separate the

clip, then right-clicking on the clip and choosing **Separate** from the pop-up menu.



Removing clips

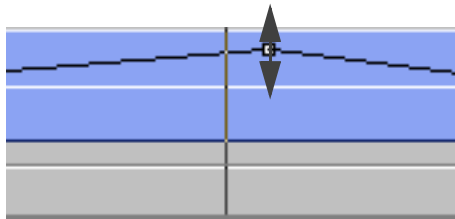
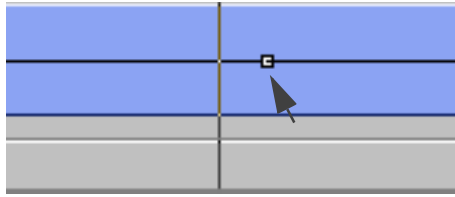
To remove a clip from the timeline, right-click on it and choose **Delete Ex Audio**.



Adjusting Audio levels

The line in the middle of the clip represents its volume level. To adjust the audio levels of your clips, click on the

line to add a node, then drag the node up or down to adjust the level.



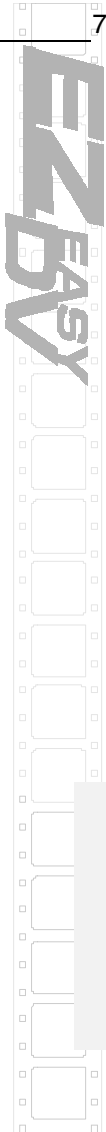
You can also adjust the levels of all the level points in a clip by holding down the **Shift** key, placing the mouse cursor over the audio line, and dragging up or down.

You can adjust the levels of all the clips in the Ex Audio track by holding down the **Shift** and **Control** keys, placing the mouse cursor over the audio line, and dragging up or down.

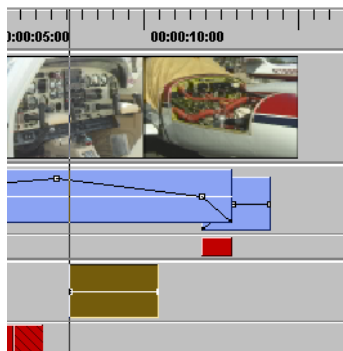
Using the Insert AV track

The Insert AV track allows you to cut away to a separate piece of video, then cut back.

Place a clip on the Insert AV track to insert it over the Main AV video. Both audio tracks (Main AV and Insert AV) remain audible unless you mute one.



To position an Insert AV clip by its start frame, hold down the **Control** key while dragging the clip.



You can disable the Insert AV track (keep Insert video from displaying) by clicking on the **Insert AV** label next to the track. When the label is white, Insert AV is disabled. When the label is black, Insert AV is enabled.



Click the Insert AV label to hide or show the Insert AV track

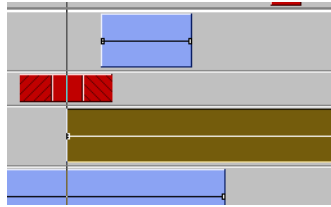
Note: When Main AV clips are added or deleted, the Insert AV clips may no longer be at the same position corresponding to the Main AV clips. To prevent this from happening, make sure **Ripple Editing** is checked in the Setting menu.

Using the Ex Audio tracks

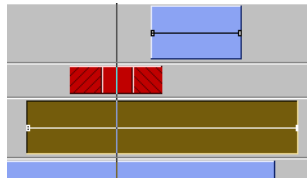
The Ex Audio 1 and Ex Audio 2 tracks provide extra places to add additional audio such as music to your production.

To add audio to the Ex Audio tracks, drag a WAV clip from the DV Bin to one of the Ex Audio tracks.

To position an Ex Audio clip by its first frame, hold down the **Control** key while dragging the clip.



To position an Ex Audio clip by scrubbing a specific video frame, position the timeline cursor at the frame you want to scrub, then hold down the **Shift** key while dragging the clip.



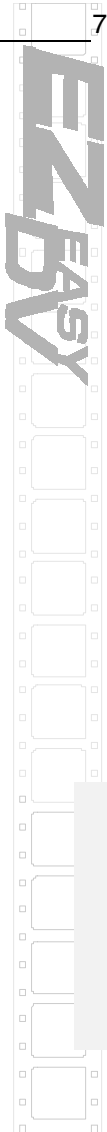
You can disable the Ex Audio 1 or Ex Audio 2 track (keep Ex Audio from playing) by clicking on the **Ex Audio 1** or **Ex Audio 2** label next to the track. When the label is white, the track is disabled. When the label is black, the track is enabled.



Click the Ex Audio 1 or Ex Audio 2 label to mute or play the track

Using 4-channel audio

Some DV devices support 4-channel 32kHz 12-bit audio.



To capture the extra channels from tape, make sure **Capture audio from track 3 and 4** is checked in the Settings menu, and use Batch or Seamless capture to capture the video. For each AVI file captured, there will be a corresponding WAV file with the same name. The AVI file will have the audio from channels 1 and 2 along with the video, and the additional WAV file will have the audio from channels 3 and 4.

To output the extra channels to tape, put the WAV clip for channel 3 and 4 in the Ex Audio 2 line and make sure **Record to track 3,4 from Ex Audio 2 (32kHz)** is checked in the Settings menu. Also make sure that the **Playback audio sampling rate** option is set to 32kHz 12-bit in the Settings menu.

Adding Graphics and Backgrounds

EZ Edit allows you to add colors clips (solid colors and gradients) and bitmap graphic files. These files can be placed into either the Main AV or Insert AV tracks and work almost identically to video clips. In addition, you can also make transitions into these files and title over the top of them.

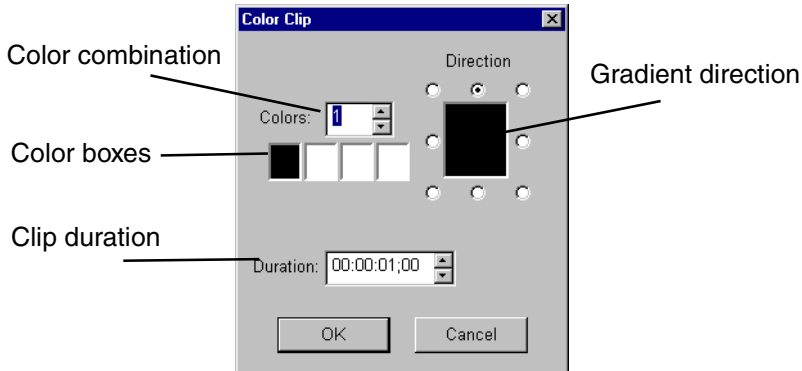
Adding a color clip

1. Add a color clip, click the **Add color clip to bin window** button on the Toolbar, or choose **Add color clip to bin window** from the Edit menu.

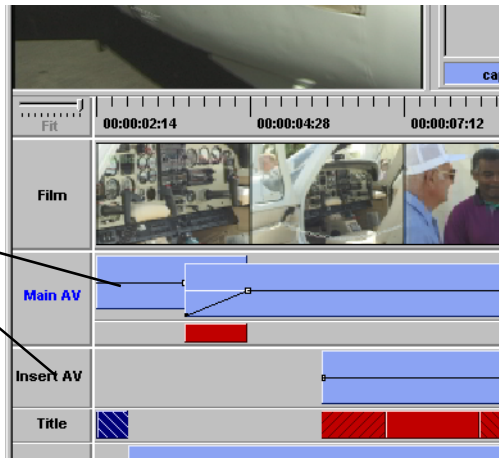


Add color clip to bin window button

2. The Color Clip dialog will appear. Click on a color box to select a color. For a solid color, make sure the **Colors** box is set to 1. For a gradient, set **Colors** to 2 or more. and set the gradient direction using the **Direction** radio buttons.
3. After you have defined your color clip click OK, the color clip will be placed into the DV Bin. At this point you can drag the color clip into the timeline.



Color clips and still images can be placed in the Main AV or Insert AV tracks

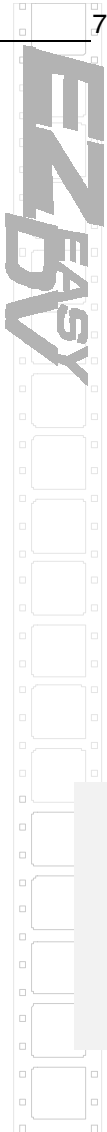


Adding a still image

To add a still image, load it into the DV Bin just like a normal clip and drag it on to the Main AV or Insert AV track.

Working with color clips and still images

Color clips and still images work the same as video clips in the timeline. The only exception is that you cannot open them in EZ Video.



Adding Transitions

Transitions can be added between clips on the Main AV line. The first clip is often referred to as Video A and the second clip is often referred to as Video B.

There are two ways to add a transition:

1. Click the **Add transition** button on the toolbar.

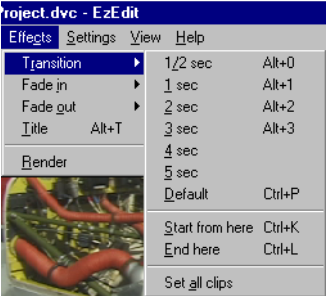


Add transition button

2. Right-click and select a transition duration from the pop-up menu.



3. Choose a transition duration from the Effects menu.

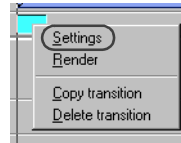


You can also have EZ Edit add the default transition to all separation points on the Main AV track that do not already

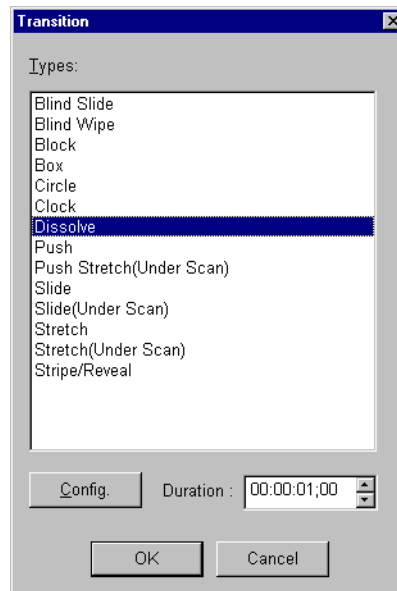
have transitions by choosing **Set all clips** from the Effect menu.



To change the settings of a transition on the timeline, double-click it or right-click it and choose **Settings**.



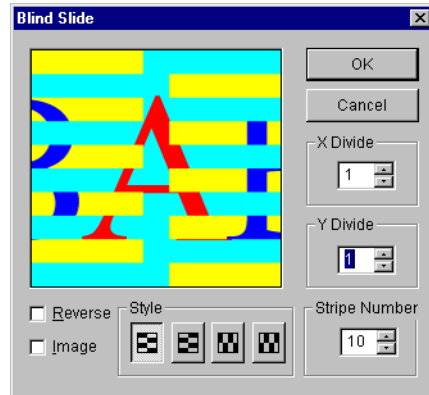
The transition dialog will appear.



Choose a transition from the list. There are 14 transitions that come with EZ Edit. If you have other transition plug-ins for EZ Edit (such as SoftXplode), those transitions will appear on the list as well.

You can change the duration of the selected transition by changing the number in the **Duration** box.

You can bring up the configuration settings for the selected transition by clicking the **Config** button.



Transition settings

For a detailed explanation of each transition's options, see the Transition Settings section of this chapter.

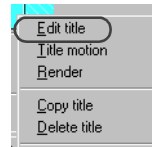
Adding Titles

To add a title to your production, click the **Add title/Edit title** button on the toolbar, or right-click in the Title track and choose **Edit title** from the pop-up.

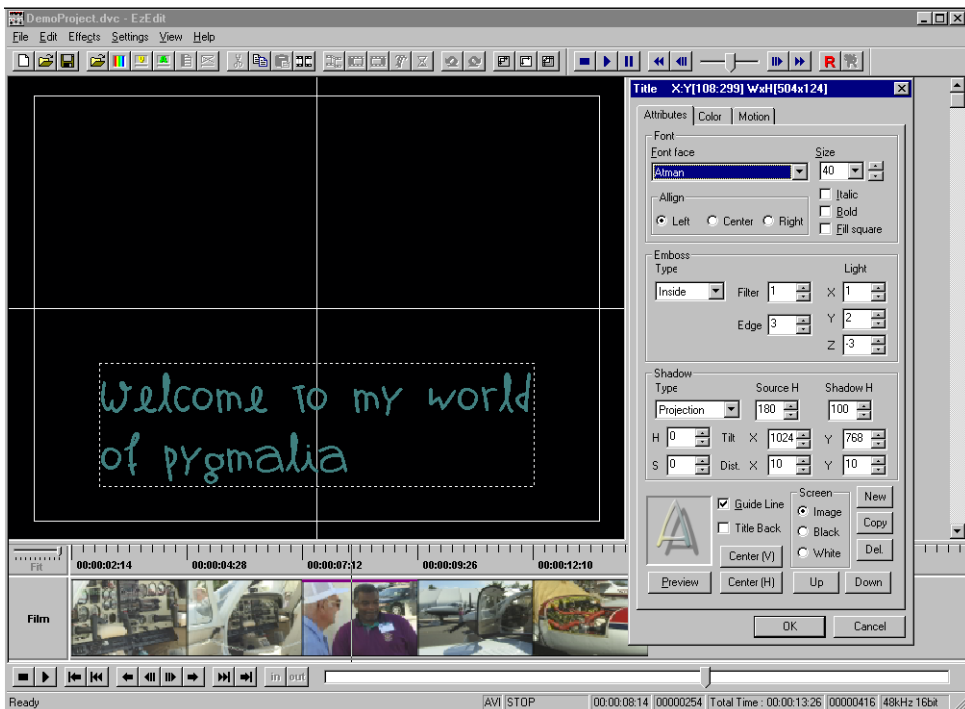
Click the Add title/Edit title button



Or choose right-click in the Title track and choose Edit title



The Titling interface will appear.



Titling interface

Entering Title Text

Enter text in the title display by double-clicking the block. You can enter text from the keyboard or paste from the clipboard. You can use any Windows TrueType font that is installed on your system.

Positioning Titles

Click the mouse outside of the title text, so the box appears with a dotted line. Click and drag the title where you want it to be.

Title Attributes

Font

Select type-face, style, size and alignment.

Emboss

There are 2 emboss styles:

Inside, fits the effect within the character outline.

Outside, puts the effect outside the character outline.

Shadow

There a 3 shadow styles:

Projection, is a drop shadow

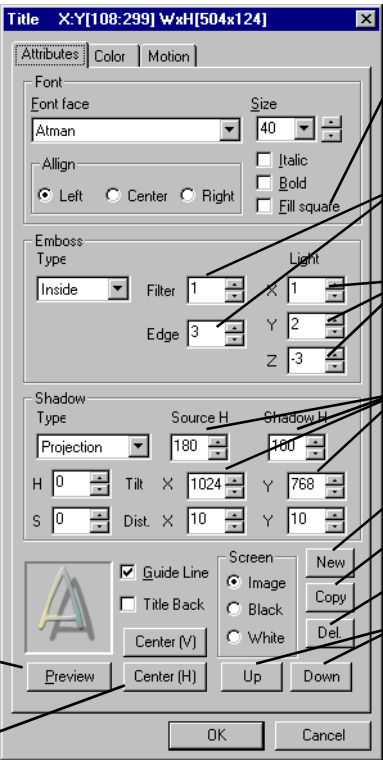
Slant, is a cast shadow

Perspective, is a shadow with a vanishing point.

H & S adjusts the hard edge and soft edge properties of the shadow.

Preview preview-render the page

Center (V) & (H) centers the title on screen



Fill square fills the font location with a solid rectangle of color

Filter & Edge determine the thickness of the emboss

Light determines where the light source is located for highlight

SourceH/ShadowH/Tilt/Dist determines height relationship between the light source and shadow

New adds a new title line

Copy copies the title line

Del deletes current line

Up/Down moves the selected text line up or down in layers

The title attributes tab allows you to change various settings of the title text. You can specify the font, add emboss-

ing, add a shadow, and center the title horizontally or vertically from this dialog.

Title Color

The color tab allows you to set the color properties of the font, edge and the shadow. You can also set transparency for the font, edge, and shadow.

Colors determines the color of the font.

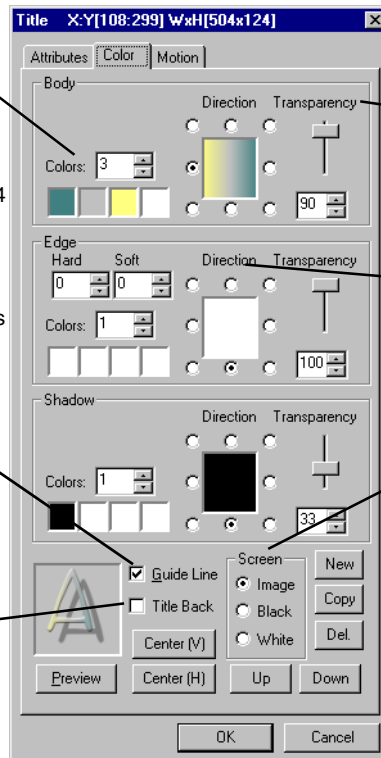
- 1 is a solid color
- 2 is a gradient between 1 and 2
- 3 is a combination of 1, 2 and 3
- 4 is a combination of 1, 2, 3 and 4

To change the box color click on one of the boxes.

Note: Fonts, Edges and Shadows can all be set in the same way using solid colors, gradients and transparency.

Guideline display's a safe titling area to make sure your titles display within the video picture.

Title Back displays a white background to help you see the complete title if the video and title are too similar in color.



Transparency adjusts the degree of transparency 100 is solid, 0 is transparent. Characters, shadows and edges can be transparent.

Direction adjusts the direction of the gradient fill

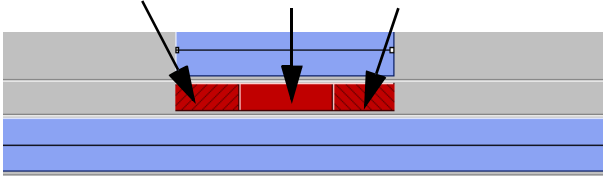
Screen allows you to preview the title over either: the video, a black background or, a white background

Title Motion

After you have created a title and selected its font and shadow characteristics you are ready to add motion to move your title on-screen.

Title motion is separate into 3 segments: **In motion**, **Hold** and **Out motion**.

In motion Hold Out motion



These three segments can be adjusted manually by dragging the boundaries which separate them. You can also adjust the In motion, Hold and Out motion in the Motion tab of the Titling dialog.

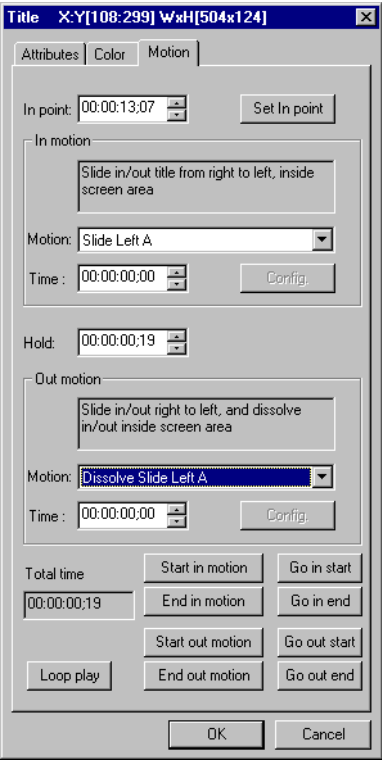
In point displays the in-point of the title in the timeline. To adjust this setting you can:

- 1/ manually enter the in-point
- 2/ use the AVI controller and play the production and click **Set In point**.

Motion displays the title motions you can use. **In motion** refers to the motion when the title comes on screen. **Out motion** refers to the motion when the title leaves the screen.

Start/end in motion adjust the Start/end point of the title clip. Click this button if you have scrubbed to a new title in or out point.

Loop play will play the current video clip as defined by the title duration. In the example to the right the clip will loop from start to end for 3;01 seconds.



Hold displays the hold-time for the title after it come son screen.

Go in start/end goes to the end or start of the title **In motion**.

Go out start/end goes to the end start of the title **In motion**.

Working with title layers

A single title can have multiple layers of text. Each layer can have text of different attributes. However, all layers share the same Motion settings.

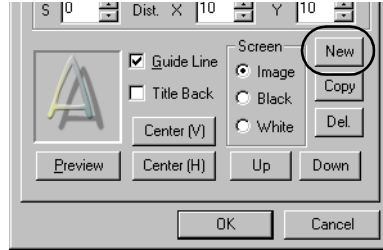


Layered title example

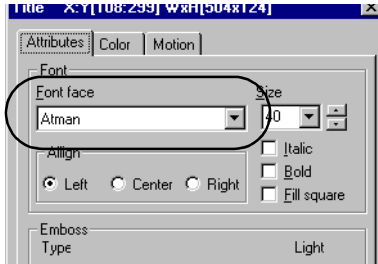
The title shown above was created by doing the following steps.

1. Create a new title.
2. Enter the text "Foo" in the title box.
3. Move the title box to the upper left area of the screen.
4. Add a drop-shadow and emboss

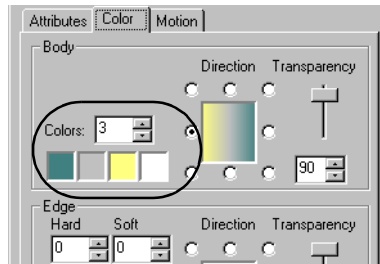
5. Click the **New** button to create a new title layer.



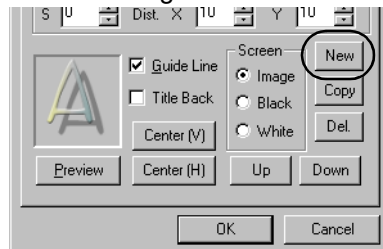
6. A new box appears. Enter “Bar” in the box.
7. Change the font to a different font.



8. Change the color of the title in the Color tab.

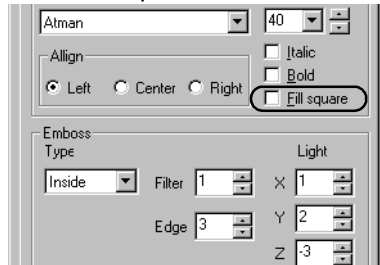


9. Move the title to the lower right area of the screen.
10. Click the **New** button again to create another title layer.

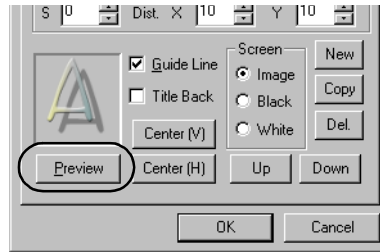


11. Enter “XXXXX” in the box. The text doesn’t matter - just the width.

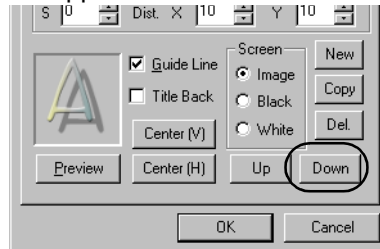
12. Click the **Fill Square** button, this will change the title from text to a filled square.



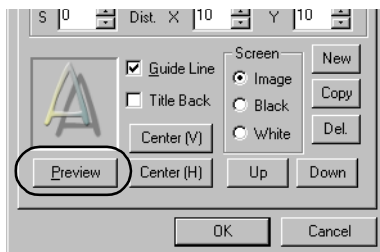
13. Change the color of the square in the Color tab.
14. Move the box so it overlaps part of the "Foo" text.
15. Click the **Preview** button to see the title. Notice how the box covers some of the "Foo" text.



16. Move the box under the "Foo" text by clicking the **Down** button until it appears below the "Foo" text.



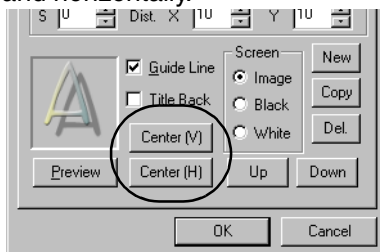
17. Click the **Preview** button again to view the completed title.



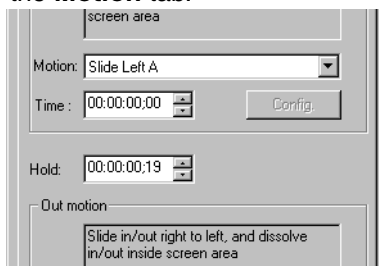
Creating scrolling titles

It's easy to create titles that scroll across the screen.

1. Create a new title.
2. Enter enough lines in the title so it takes more space than the screen. Increase the font size if necessary.
3. Click the **Center (V)** and **Center (H)** to center the title vertically and horizontally.



4. Switch to the **Motion** tab.



5. Enter 00:01:00;00 in the In Motion **Time** box. This will set the In motion to 1 minute.
6. Enter 00:00:00;00 in the Hold box. This will set the Hold time to 0, since we don't want the title to stop.

7. Enter 00:01:00;00 in the Out Motion **Time** box. This will set the Out motion to the same time as the In motion. This is important, otherwise the In and Out scroll speeds will be different.
8. Choose **Slide Up** as both the In Motion and the Out Motion.
9. Click **OK** to accept and close the title.
10. Render the title.
11. Play the section of the timeline with the title. You will see it scroll upward across the screen.

You can have a title scroll down, left, or right by changing the In and Out motions from Slide Up to Slide Left, Slide Right, or Slide Down.

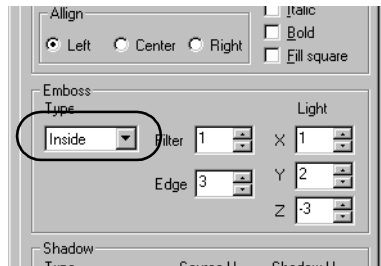
Note: You can accomplish the same effect as the steps above by setting the In motion time to 2 minutes, setting the Hold and Out motion times to 0, and moving the title so it is located completely above the screen instead of clicking **Center (V)** and **Center (H)** in step 3.

Alternatively, you could set only the Out motion time and position the title below the screen.

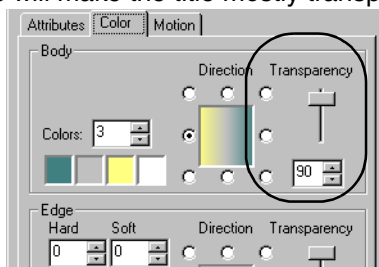
Using a Title as a Logo tag

You can use a semi-transparent title as a logo tag in the video.

1. Create a new title.
2. Position it somewhere on the screen.
3. Set an **Inside** emboss to make the title a bit more defined.



4. Change the body **Transparency** setting in the Color tab to 20. This will make the title mostly transparent.

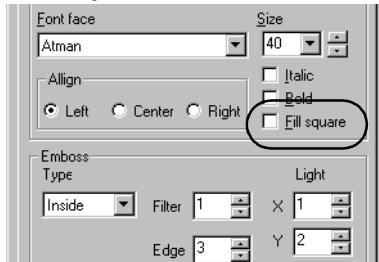


5. Click **OK** to accept the title.
6. Render the title.
7. Play the timeline to view the logo tag you made.

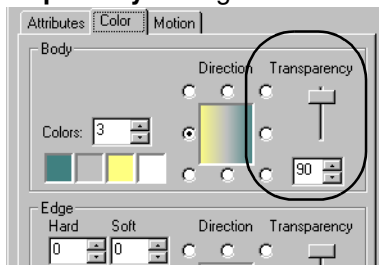
Using a Fill Square to colorize video

You can use a large semi-transparent fill square to colorize all or part of the video frame.

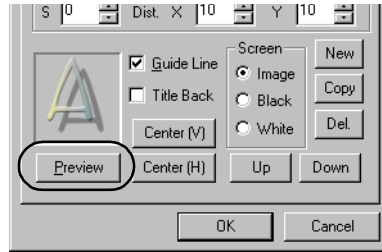
1. Create a new title.
2. Enter some text and make it large enough to occupy a good portion of the screen.
3. Check the **Fill square** checkbox.



4. Set the **Transparency** setting in the Color tab to 30.

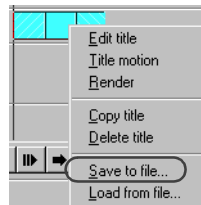


5. Click the **Preview** button to preview the colorization effect.

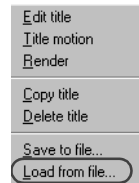


Saving and Loading Title data

You can save a title to a Title Data File (.TDF) for use in other EZ Edit projects. Right click the title and choose **Save to file** from the menu.



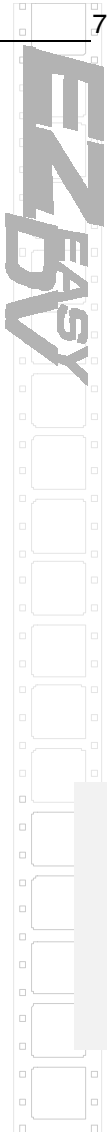
To load a Title Data File (.TDF) into the title track, right-click on the title track and choose **Load from file**.



You can also add title data files to the DV Bin as clips.

Batch and Seamless Capture

Please refer to the EZ Video chapter for an explanation of Batch and Seamless capture.

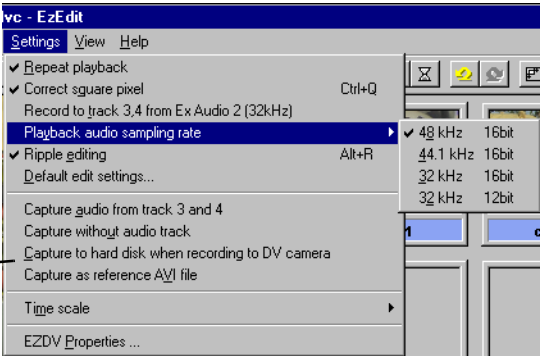


Remote Capture

In addition to batch and seamless capture, EZ Edit supports a feature called remote capture.

- In Remote capture mode,
1. Open Raptor Edit and manually put your camera into camera or photo mode.
 2. Select **Capture to hard disk when recording to DV camera** from the **Settings** pull-down menu.

Remote capture



Remote capture option

3. When you are in **Remote** mode the camera record button starts and stops the computer capture sequence. The complete capture goes to one file.
4. When finished capturing, click the **Stop** button on the AVI controller.



Outputting your Production to Tape

SyncRecord

The following steps will output your timeline to tape using SyncRecord.

1. Verify that all transitions and titles have been rendered. There should be no red blocks on the timeline. If one or more items are not rendered, you can click the **Render all effects on time line** button in the toolbar to render them all.

Click the Render all effects button if it is not grayed out



2. Insert a blank tape into your DV device. Make sure it is not write-protected.
3. Click the **SyncRecord** button on the Deck controller.



EZ Edit will rewind the tape, then record the timeline to the tape.

Manual Record

The following steps will output your timeline to tape using Record.

1. Verify that all transitions and titles have been rendered. There should be no red blocks on the timeline. If one or more items are not rendered, you can click the **Render all effects on time line** button in the toolbar to render them all.

Click the Render all effects button if it is not grayed out



2. Insert a blank tape into your DV device. Make sure it is not write-protected.
3. Click the **Play** button on the AVI controller to start playback of the timeline.



4. Click the **SyncRecord** button on the Deck controller.



EZ Edit will rewind the tape, then record the timeline to the tape.

5. When you are done, click the **Stop** button on the Deck controller to stop recording.



Creating AVI files from the timeline

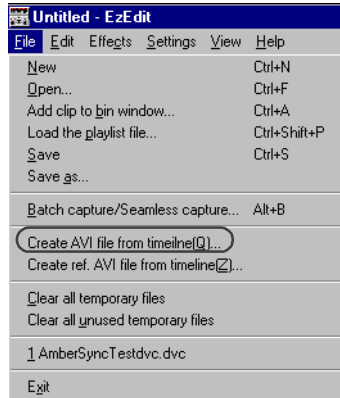
Most times you would output a completed project directly from the timeline using SyncRecord or Manual Record.

However, there may be instances when you need to save the timeline as an AVI. For example, you may want to combine two projects together, or use the edited video in another program.

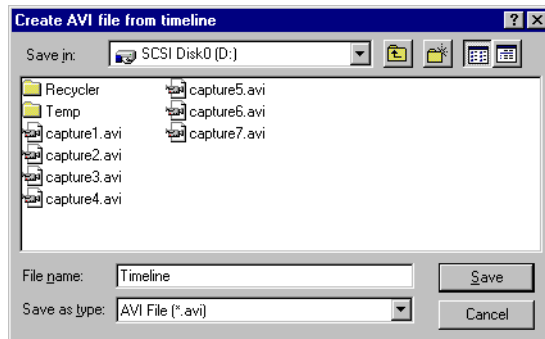
There are two options for creating an AVI from the timeline, **Create AVI file from timeline** and **Create ref. AVI file from timeline**. Which option you use largely depends on the length of your timeline and what you plan to do with the outputted AVI file.

Create AVI file from timeline will create a new AVI file that contains all the audio and video data from the timeline. This AVI file can be moved to another machine and used. If your timeline is longer than 2 gigabytes (about 9 minutes), only the first 2 gigabytes of the timeline will be output. If your timeline is longer than 2 gigabytes (about 9 minutes) you will need to create a reference AVI instead.

To create a AVI from the timeline, choose **Create AVI file from timeline** in the File menu.



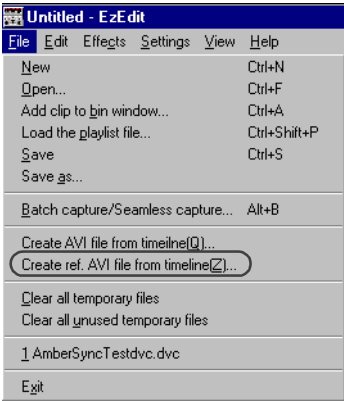
The Create AVI file from timeline dialog will appear.



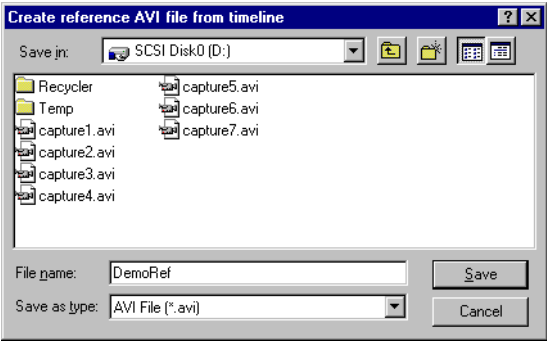
Give the file a name and click the **Save** button.

Create ref. AVI file from timeline will create a reference AVI file that contains only pointers to the files that contain the audio and video data from the timeline. This AVI file relies on the clip files and rendered temporary files of the project. It cannot be moved to another machine without duplicating the same drive and directory structure on the other machine. However, reference AVI files take up very little space, and can be of unlimited length. Creating reference AVIs of projects is useful when you need to join or combine projects.

To create a reference AVI from the timeline, choose **Create ref. AVI file from timeline** in the File menu.



The Create reference AVI file from timeline dialog will appear.



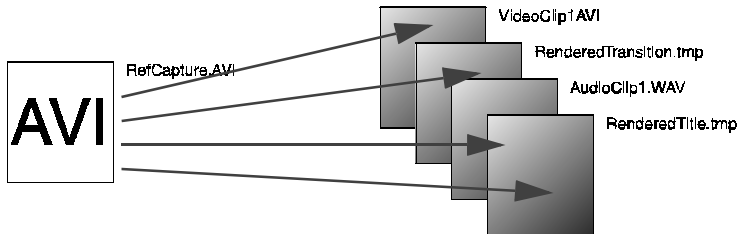
Give the file a name and click the **Save** button.

Reference AVI files and the 2-gigabyte AVI filesize limit

Standard AVI files have a size limitation of 2 gigabytes. This corresponds to slightly over 9 minutes (depending on audio sampling rate) of video captured using EZDV.

EZDV overcomes this limitation with Reference AVI technology. Reference AVI files are small AVI files that “point” to other files that contain the actual video data.

When creating a Reference AVI file, the system makes a single AVI file that references the finished project data files.

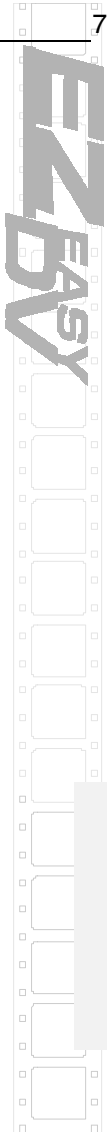


caution



Reference AVI files maintain absolute paths to their data files. This means that it remembers the entire drive and directory path to the data files. **Do not move the data files of a Reference AVI!** If the data files are moved, the Reference AVI will not play back properly.

If you try to output a timeline that is larger than 2 gigabytes (about 9 minutes), you must output a Reference AVI file.



Interface In-depth

Toolbar

The toolbar contains buttons for many commonly used menu items.



Toolbar (left side)

The functions of the toolbar buttons are as follows:

- | | | |
|--|---------------------------------------|--|
| | New | Clears the current bin and timeline and creates a new project. |
| | Open | Opens an existing project file. |
| | Save | Saves the project file. |
| | Add clip to bin window | Opens the Add clip to bin window dialog. |
| | Add color clip to bin window | Opens the Color clip dialog to add a color clip to the DV Bin. |
| | Open EZ Video | Opens EZ Video. |
| | Open EZ Audio | Opens EZ Audio. |
| | Batch capture/Seamless capture | Opens the Batch/Seamless capture dialog. |
| | Close all edit windows | Closes any EZ Video or EZ Audio instances that were launched from EZ Edit. |
| | Cut | Cuts the selected clip from the timeline and moves it to the clipboard. |



Copy
copies the selected clip in the timeline to the clipboard.



Paste
Pastes the clip on the clipboard into the timeline.



Separate
Separates the clip at the timeline cursor.



Toolbar (right side)



Add transition Adds the default transition to the separation nearest to the timeline cursor.



Add fade in Adds a fade in (from black) to the separation nearest to the timeline cursor.



Add fade out Adds a fade out (to black) to the separation nearest to the timeline cursor.



Add title/Edit title

Opens the title GUI to add or edit a title at the timeline cursor position.



Render all effects on time line

Renders all the transitions and titles on the timeline.



Undo
Undo the last action.



Redo
Redo the action that was undone.



1/2 Preview size

Sets the preview window to 1/2 size.



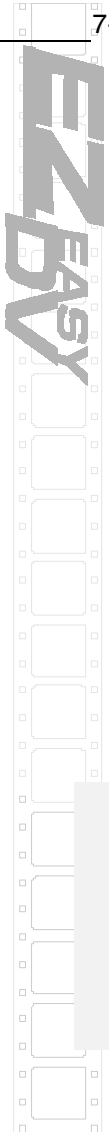
Full Preview size

Sets the preview window to full size.



Restore previous preview size

Restores the preview window to the previous size.



Timeline

See the Timeline section earlier in the chapter.

Deck controller

The Deck controller lets you control the connected DV deck through the i.LINK interface.



Deck controller

Stop Stops the Deck.



Play Starts playback on the deck.



Pause Pauses the deck.



Rewind Pressed when the DV deck is stopped, it will rewind the tape.



Pressed when the DV deck is playing, it will go into reverse-scan mode.

Previous frame



Moves the deck one frame back.

Shuttle controller

The shuttle controller lets you play the tape forward or backward at varying speeds. There are five stops on either side of the middle.

Drag the slider to the left to play backward, drag it to the right to play forward. The playback speeds will depend on your DV deck, but the stops are generally 1/10 speed, 1/5 speed, 1x, 2x, and 20x.



Next frame



Moves the deck one frame forward.

Forward



Pressed when the DV deck is stopped, it will fast-forward the tape.

Pressed when the DV deck is playing, it will go into forward-scan mode.

**Record**

Starts recording on the deck.

**SyncRecord**

Starts SyncRecord on the deck. SyncRecord will record the timeline to the deck automatically.

AVI Controller

The AVI Controller provides playback controls for the timeline.

**Stop**

Stop playback of the timeline.

**Play**

Play the timeline from the timeline cursor.

**Top frame**

Go to the beginning of the timeline.

**Previous clip**

Jump to the previous clip.

**Scroll timeline left**

Scrolls the timeline to the left.

**Previous frame**

Moves the timeline cursor one frame back.

**Next frame**

Moves the timeline cursor one frame forward.

**Scroll timeline right**

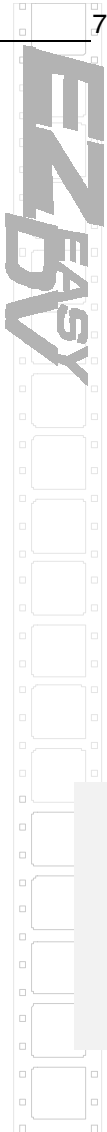
Scrolls the timeline to the right.

**Bottom frame**

Go to the end of the timeline.

**Mark in**

Marks the current timeline cursor point as the In point for the clip.





Mark out Marks the current timeline cursor point as the out point for the clip.



Shuttle Bar The shuttle bar allows you to quickly move through the timeline. Drag the slider to move through the timeline.

Status Bar

The status bar lists pertinent information about the timeline.



AVI/DV indicator Status Position Total time Audio sampling rate

AVI/DV indicator Displays AVI if the position information is for the timeline or DV if the position information is for the deck.

Status Displays the status of the deck or timeline.

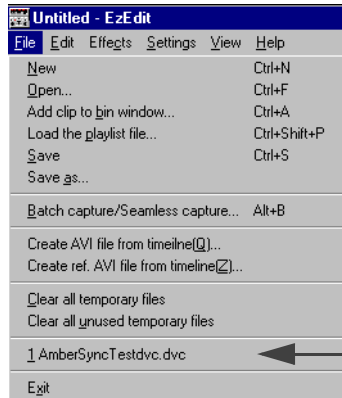
Position Displays the time position and frame position of the deck or timeline cursor.

Total time Displays the total time length of the timeline in hours, minutes, seconds, frames and in number of frames.

Audio sampling rate Displays the sampling rate of the timeline.

Menu options

File Menu



New Clears the current bin and timeline and creates a new project.

Open Opens an existing project file.

Add clip to bin window

Opens the Add clip to bin window dialog to load clips into the DV bin.

Load the playlist file

Opens an EZ Video playlist file and brings its clips into the DV bin and Timeline.

Save Saves the project file.

Save as... Saves the project file to a new file.

Batch capture/Seamless capture

Opens the Batch capture/Seamless capture dialog. See the EZ Video chapter for more information.

Create AVI from timeline

Creates a new AVI file from the timeline. If the timeline is over 2 gigabytes (about 9 minutes), only the first 2 gigabytes will be saved to the new AVI. Consider creating a Reference AVI instead.

Create ref. AVI from timeline

Creates a reference AVI file from the timeline. The reference AVI can be of unlimited length, however it is only a pointer to the clips and rendered files. Please refer to the section on Reference AVIs and the 2 gigabyte AVI limit in this chapter.

Clear all temporary files

Clears all the temporary files for this project.

Clear all unused temporary files

Clears any unused temporary files for this project (rendered transitions that were subsequently deleted, etc).

Recent file list

Provides quick opening of recent files.

Exit

Quits out of EZ Edit.

Edit menu



Undo

Undo the last action performed.

Redo

Redo the undone action.

Delete

Deletes the selected clip from the timeline.

Cut

Cuts the selected clip from the timeline and puts it on the clip-board.

Copy

Copies the selected clip to the clipboard.

Paste

Pastes the clip on the clipboard to the timeline.

Paste to bin window

Pastes the clip on the clipboard to the DV Bin.

Separate

Separates the clip at the timeline cursor.

Paste transition

Pastes the transition on the clipboard to the timeline.

Paste title Pastes the title on the clipboard to the timeline.

Search**Jump**

Opens the Jump dialog to jump to a particular time or frame.

Jump to previous scene

Searches for and moves the timeline cursor to the previous scene (if any).

Jump to next scene

Searches for and moves the timeline cursor to the next scene (if any).

Jump to previous index

Moves the timeline cursor to the previous index point (if any).

Jump to next index

Moves the timeline cursor to the next index point (if any).

Set In Point Sets the timeline cursor position as the In point for the current clip.

Set Out Point

Sets the timeline cursor position as the Out point for the current clip.

Trim clip... Opens the Trim clip dialog to manually trim a clip by frame or timecode.

Add color clip to bin window

Opens the Color clip dialog to add a color clip to the bin window.

Auto arrange clips

Arranges the clips in the DV bin on to the Main AV track.

Auto arrange clips in reverse order

Arranges the clips in the DV bin on to the Main AV track in reverse order.

Add clips on Main AV to bin window

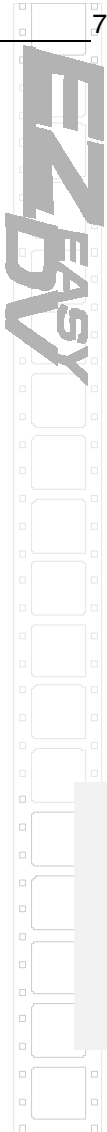
Adds the clips on the Main AV track to the DV bin.

Clear bin window

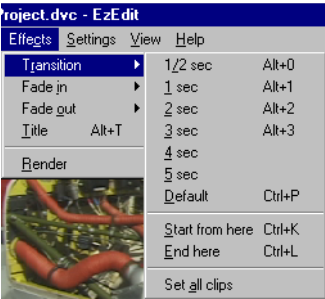
Clears the DV bin of clips. The timeline will not be changed.

Clear timeline

Clears the timeline. The DV bin will not be changed.



Effects menu



Transition

- 1/2 sec**
Adds a 1/2 second default transition.
- 1 sec**
Adds a 1 second default transition.
- 2 sec**
Adds a 2 second default transition.
- 3 sec**
Adds a 3 second default transition.
- 4 sec**
Adds a 4 second default transition.
- 5 sec**
Adds a 5 second default transition.
- Default**
Adds a default transition with the length.
- Start from here**
Adds the default transition starting from the timeline cursor.
- End here**
Adds the default transition ending at this point.
- Set all clips**
Adds the default transition with default duration to all separation points that do not already have transitions.

Fade in

- 1/2 sec**
Adds a 1/2 second fade in.
- 1 sec**
Adds a 1 second fade in.
- 2 sec**
Adds a 2 second fade in.
- 3 sec**
Adds a 3 second fade in.
- 4 sec**
Adds a 4 second fade in.
- 5 sec**
Adds a 5 second fade in.

Fade out**1/2 sec**

Adds a 1/2 second fade out.

1 sec

Adds a 1 second fade out.

2 sec

Adds a 2 second fade out.

3 sec

Adds a 3 second fade out.

4 sec

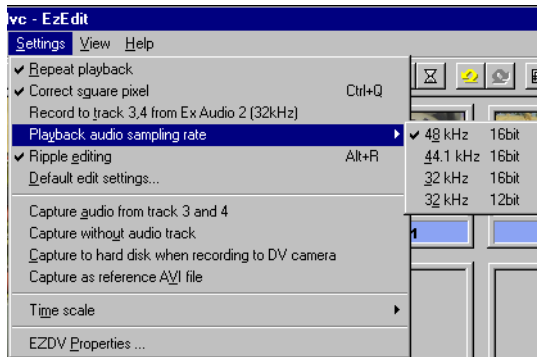
Adds a 4 second fade out.

5 sec

Adds a 5 second fade out.

Title Opens the titling GUI to add titles.

Render Renders the transition or title.

Settings menu**Repeat playback**

When checked, playback will repeat from the beginning of the timeline when it hits the end.

When unchecked, playback will stop at the end of the timeline.

Correct Square Pixel

When checked, the on-screen display will be corrected to display the DV video as it would look on a television or video monitor.

When un-checked, the on-screen DV video will be slightly different from the image viewed on a television or video monitor.

It is best to leave this option checked.

Record to track 3,4 from Ex Audio 2 (32kHz)

When checked, the audio on Ex Audio 2 will be recorded to channels 3 and 4 of the DV tape (4-channel 32kHz 12-bit audio mode).

When unchecked, the audio on Ex Audio is mixed with the rest of the audio and output to channel 1 and 2 of the DV tape.

Playback audio sampling rate**48 kHz 16bit**

Specifies that the timeline should be played with 48 kHz 16-bit audio. Any audio that is not 48 kHz, 16-bit, will be upsampled as necessary.

This is the best setting to use unless you are outputting 4-channel 32 kHz audio.

44.1 kHz 16bit

Specifies that the timeline should be played with 44.1 kHz 16-bit audio. Any audio that is not 44.1 kHz, 16-bit, will be upsampled or downsampled as necessary.

32 kHz 16bit

Specifies that the timeline should be played with 32 kHz 16-bit audio. Any audio that is not 32 kHz, 16-bit, will be upsampled or downsampled as necessary.

32 kHz 12bit

Specifies that the timeline should be played with 32 kHz 12-bit audio. Any audio that is not 32 kHz, 12-bit, will be downsampled as necessary.

Ripple editing

When checked, Insert AV clips, titles, and Ex Audio clips will move with the corresponding Main AV clip location when a Main AV clip is added or deleted from the Main AV track. Ripple editing keeps Insert AV clips, titles, and Ex Audio clips synced to the proper positions.

When unchecked, if a Main AV clip is added or removed only clips in the Main AV track will shift.

It is generally good to keep this option checked.

Default edit settings...

Opens the Default edit settings dialog to set or change edit defaults.

Capture audio from track 3 and 4

When checked, audio from channel 3 and 4 on the tape (4-channel 32 kHz 12-bit audio) will be captured to a separate WAV file simultaneously with the AVI capture in EZ Edit. The separate WAV file can be synced to the corresponding AVI clip to get all four channels of audio.

When unchecked, audio from channel 3 and 4 will not be captured.

Capture without audio track

When checked, DV audio will not be copied to the AVI audio track.

When unchecked, DV audio is copied to the AVI audio track for compatibility.

Check this option **only** if you need to capture a clip with mixed sampling rates and are getting “Invalid DV data” errors.

Capture to hard disk when recording to DV camera

When checked, recording to the hard disk will start and stop with recording on the camera.

When unchecked, recording to the hard disk occurs independently from the record status of the camera.

Capture as reference AVI file

When checked, EZ Edit will capture Reference AVI files, which can be of unlimited length. See the section about Reference AVI files in the EZ Video chapter for more information.

When un-checked, EZ Edit will capture standard AVI files, which are limited to 2 gigabytes (a little over 9 minutes).

Time scale**1 Frame**

Sets the timeline scale to 1 frame.

10 Frames

Sets the timeline scale to 10 frames.

1 Second

Sets the timeline scale to 1 second.

2 Seconds

Sets the timeline scale to 2 seconds.

5 Seconds

Sets the timeline scale to 5 seconds.

10 Seconds

Sets the timeline scale to 10 seconds.

15 Seconds

Sets the timeline scale to 15 seconds.

30 Seconds

Sets the timeline scale to 30 seconds.

1 Minute

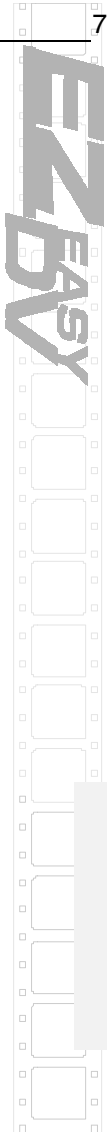
Sets the timeline scale to 1 minute.

Fit

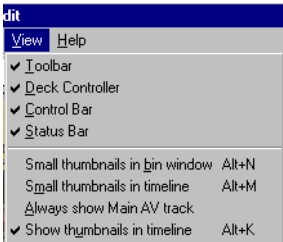
Sets the timeline scale to whatever value is necessary for the entire timeline to be visible on the screen.

EZDV properties...

Opens the EZDV properties dialog.



View Menu



Tool Bar

Toggles display of the Tool bar.

Deck Controller

Toggles display of the Deck controller.

Control Bar

Toggles display of the AVI controller.

Status Bar

Toggles display of the Status bar.

Small thumbnails in bin window

When checked, small thumbnails are used in the bin window.

When unchecked, large thumbnails are used in the bin window.

Small thumbnails in timeline

When checked, small thumbnails are used in the Film track.

When unchecked, large thumbnails are used in the Film track.

Always show Main AV track

When checked, the Main AV track will be “locked” on to the interface. When not all tracks are shown and the tracks are scrolled, Main AV will remain locked at the top.

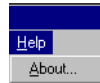
When unchecked, the Main AV track will scroll with the remaining tracks if not all tracks are shown.

Show thumbnails in timeline

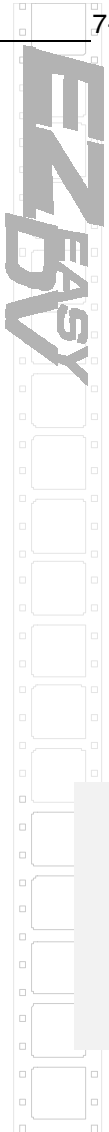
When checked, the Film track shows thumbnails of the video at varying intervals.

When unchecked, the Film track is hidden and no thumbnails are shown.

Help menu



About... Opens the About dialog to display software version information.



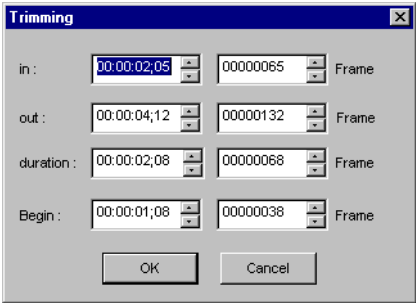


Dialogs

Batch capture/Seamless capture

Please refer to the EZ Video chapter for an explanation of Batch capture/Seamless capture.

Trim clip



In Sets the In point for the clip in hours, minutes, seconds, and frames or by frame count.

Out Sets the Out point for the clip in hours, minutes, seconds, and frames or by frame count.

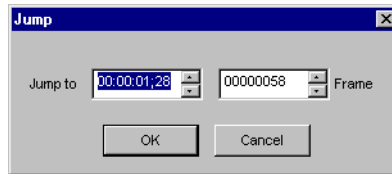
Duration Sets the Duration for the clip in hours, minutes, seconds, and frames or by frame count.

Begin For non-Main AV clips, sets the start position of the clip in hours, minutes, seconds, and frames or by frame count.

OK Accept the changes to the In, Out, Duration, and Begin points and close the dialog.

Cancel Cancel changes and close the dialog.

Jump...

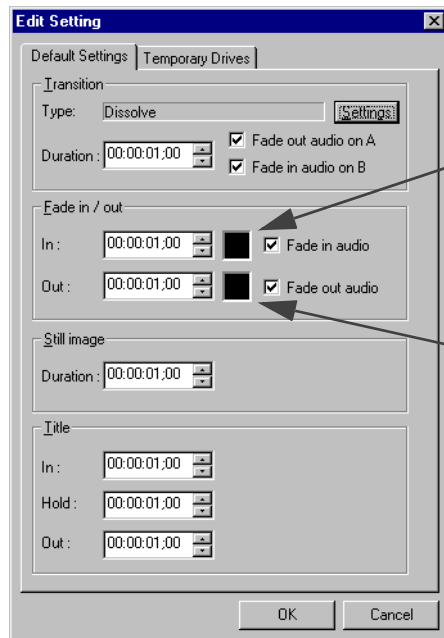


Jump to Jump to a specific timecode or frame number in the timeline.

OK Close the dialog and jump to the specified timecode or frame number.

Cancel Close the dialog and do nothing.

Default Edit Settings - Default Settings



Fade in color

Fade out color

Transition

Type

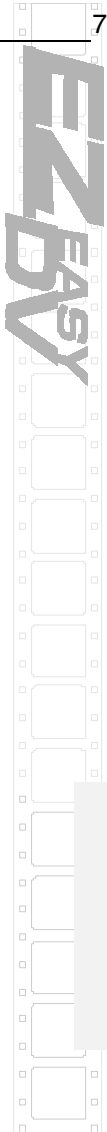
Displays the default transition type.

Settings button

Brings up the Transition dialog to select the default transition.

Duration

Sets the duration of the default transition in hours, minutes,



seconds, and frames.

Fade out audio on A checkbox

When checked, audio on the first clip will automatically be set to fade out during the transition.

When unchecked, audio levels on the first clip will not be changed.

Fade in audio on B checkbox

When checked, audio on the second clip will automatically be set to fade in during the transition.

When unchecked, audio levels on the second clip will not be changed.

Fade in / out

In

Sets the default duration for fade in, in hours, minutes, seconds, and frames.

Fade in color

Click to set the default Fade in color.

Fade in audio checkbox

When checked, audio is automatically set to fade in when a fade in is added.

Out

Sets the default duration for fade out, in hours, minutes, seconds, and frames.

Fade out color

Click to set the default Fade out color.

Fade out audio checkbox

When checked, audio is automatically set to fade out when a fade in is added.

Still image

Duration

Sets the default duration for still images in hours, minutes, seconds, and frames.

Title

In

Sets the default In Motion duration for titles in hours, minutes, seconds, and frames.

Hold

Sets the default Hold duration for titles in hours, minutes, seconds, and frames.

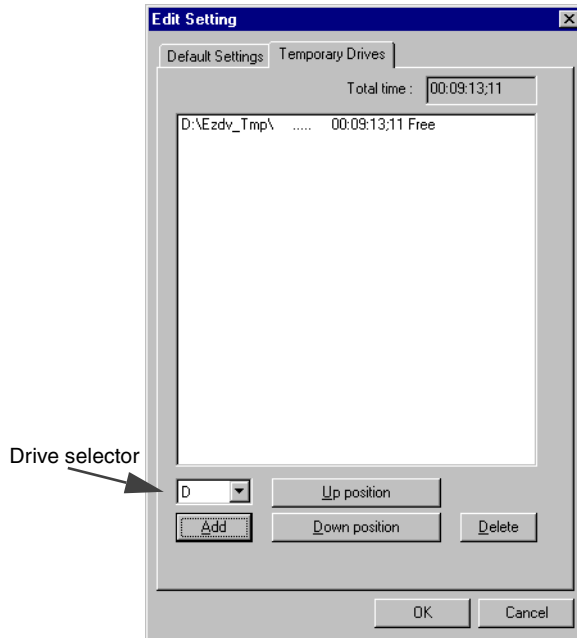
Out

Sets the default Out Motion duration for titles in hours, minutes, seconds, and frames.

OK Accept changes and close the dialog.

Cancel Cancel changes and close the dialog.

Default Edit Settings - Default Settings



Total time Displays the total storage time of all temporary drives in the list.

Drive selector

Select a drive from the drop-down to add it to the list.

Add button

Click the Add button to add the selected drive to the temporary drives list.

Up position button

Click a drive entry and click the Up position button to move it up in the list (higher priority).

Down position button

Click a drive entry and click the Down position button to move it down in the list (lower priority).

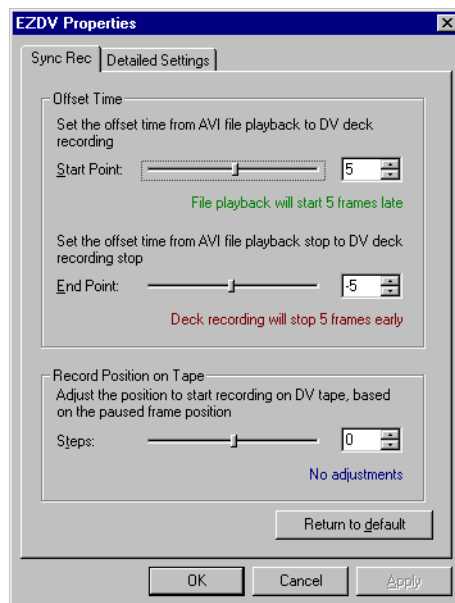
Delete button

Click a drive entry and click the Delete button to remove it from the temporary drives list.

OK Accept changes and close the dialog.

Cancel Cancel changes and close the dialog.

EZDV properties... - Sync Rec



Offset Time

Start Point

Sets the number of frames early or late that AVI file playback should occur when doing a SyncRecord.

The default is for the AVI file to start playing 5 frames after the DV deck has been set to start recording. This assumes that it takes 5 frames of time for the DV deck to actually engage the recording head and start recording.

End Point

Sets the number of frames early or late that the DV deck should stop recording.

The default is for the DV deck to get the Stop command 5 frames before the end of the AVI file. This assumes that it takes 5 frames of time for the DV deck to actually disengage the recording head and stop recording.

Record Position on Tape

Steps

Sets the default recording position when SyncRecording from a paused frame. The default is for recording to start at the paused frame.

Return to default button

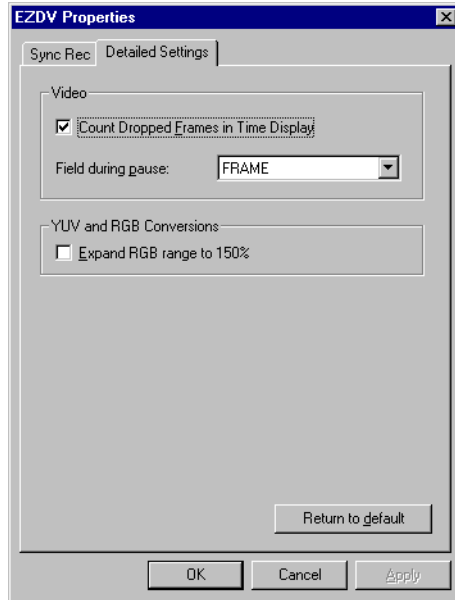
Returns the settings for this tab to the defaults.

OK button Apply the current Sync Rec and Detailed Settings settings and close the window.

Cancel button

Cancel the current changes to the Sync Rec and Detailing Settings settings and close the window.

EZDV properties... - Detailed Settings



Video

Count Dropped Frames in Time Display checkbox (NTSC only)

When checked, 29.97 fps drop-frame timecode is used.

When unchecked, 30 fps non-drop-frame timecode is used.

This option affects all timecode entry and calculations.

Except in special cases, this option should be checked.

Field during pause

FRAME

When AVI playback is paused, the frame (both fields) is shown.

There may be some jitter apparent in the display when FRAME is selected for pause. This does not affect DV output.

ODD

When AVI playback is paused, only the odd field is shown.

Use this option to eliminate jitter in the display on paused playback. This does not affect DV output.

EVEN



When AVI playback is paused, only the even field is shown.

Use this option to eliminate jitter in the display on paused playback. This does not affect DV output.

YUV and RGB Conversions

Expand RGB range to 150% checkbox

When checked, the luminance and chrominance ranges are increased during conversion to RGB.

When unchecked, the standard DV Blue Book conversion method (which limits the RGB range) is used.

This option has no effect on programs which edit in YUV colorspace, such as EZ Edit. However, for programs which use RGB colorspace, setting this option may help increase the video quality of AVIs created in those programs.

Return to default button

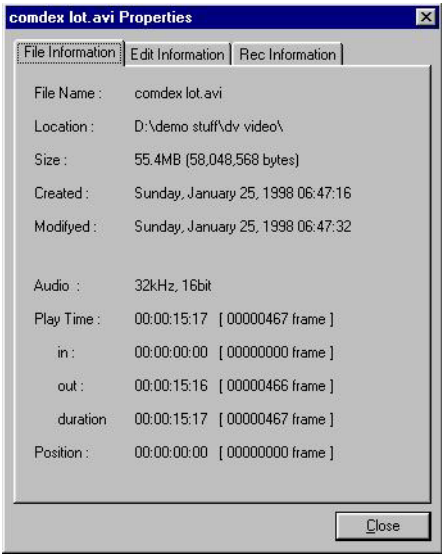
Returns the settings for this tab to the defaults.

OK button Apply the current Sync Rec and Detailed Settings settings and close the window.

Cancel button

Cancel the current changes to the Sync Rec and Detailing Settings settings and close the window.

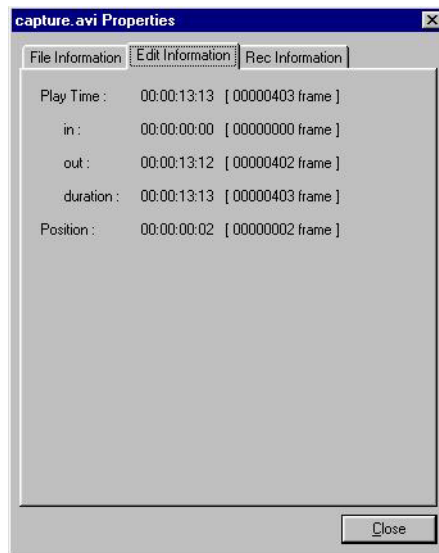
AVI Properties - File Information



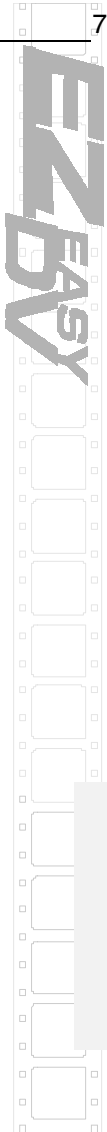
File Name Name of the file.

Location	Drive and directory where the file is stored.
Size	File's size in MB and bytes.
Created	File's creation date.
Modified	File's modification date.
Audio	Audio sampling rate and number of bits
Play Time	File's play time
In	File's In point
Out	File's Out point
Duration	File's duration

AVI Properties - Edit Information



Play Time	Play time of the timeline.
In	Timeline In point for this clip.
Out	Timeline Out point for this clip.
Position	Position of the timeline cursor.



AVI Properties - Rec Information



Date Date the clip was recorded.

Time Time the clip was recorded.

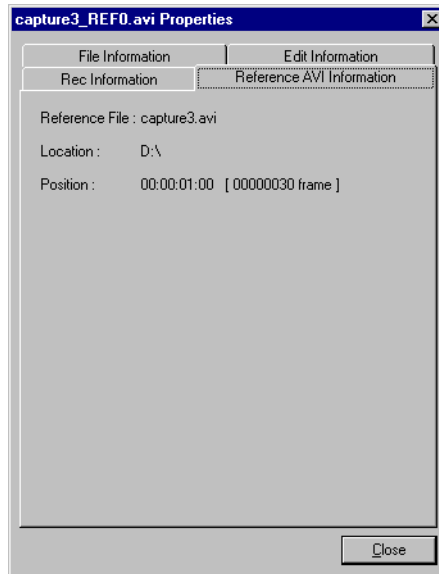
In In point of the clip on tape.

Out Out point of the clip on tape.

Position Position of the clip on tape.

Source Source type.

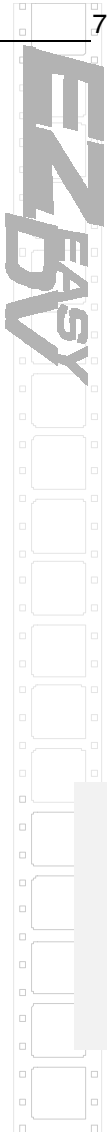
AVI Properties - Reference AVI Information

**Reference File**

The file(s) this reference AVI refers to.

Location The location of the referenced file(s).

Position Position of this clip in the reference file(s).

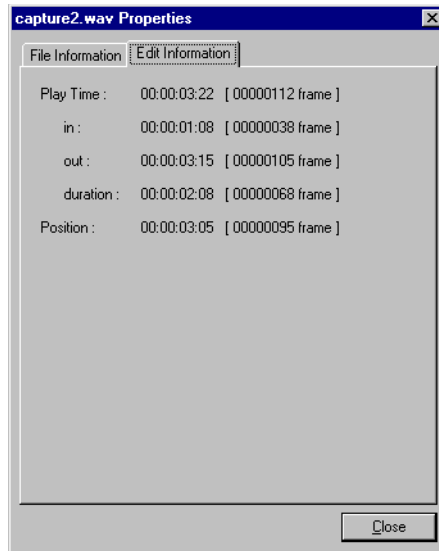


WAV Properties - File Information



- File Name** Name of the file.
- Location** Drive and directory where the file is stored.
- Size** File's size in MB and bytes.
- Created** File's creation date.
- Modified** File's modification date.
- Audio** Audio sampling rate and number of bits
- Play Time** File's play time
- In** File's In point
- Out** File's Out point
- Duration** File's duration

WAV Properties - Edit Information



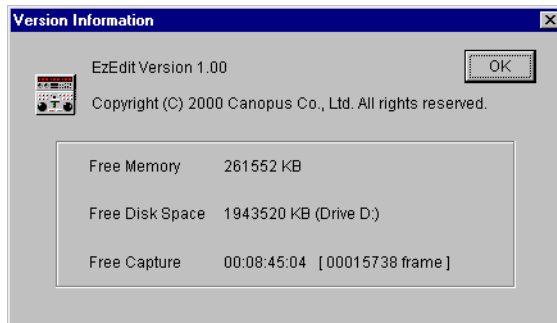
Play Time Play time of the timeline.

In Timeline In point for this clip.

Out Timeline Out point for this clip.

Position Position of the timeline cursor.

About



Free Memory Displays the amount of free memory in the system.

Free Disk Space

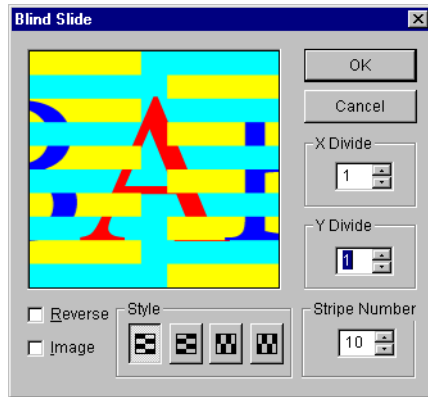
Displays the amount of free disk space on the temporary drive.

Free Capture

Displays the amount of video that can be stored on the drive listed for Free Disk Space, in hours, minutes, seconds, and frames, and in frame count.

Transition Settings

Blind Slide



Blind Slide divides Video B into multiple stripes and slides those stripes over Video A.

X Divide Number of horizontal repetitions that occur in the transition.

Y Divide Number of vertical repetitions that occur in the transition.

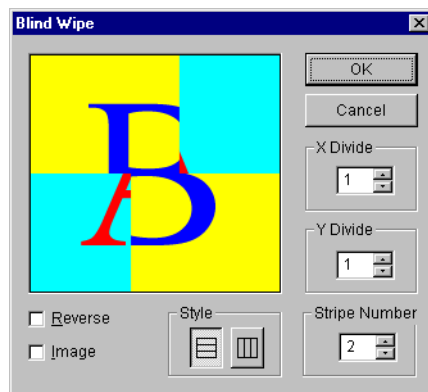
Stripe Number
Number of stripes.

Style Determines how the sections enter the video frame.

Reverse Swaps Video A and Video B.

Image Displays a video frame for Video A and Video B instead of the A and B images.

Blind Wipe



Blind Wipe divides Video B into multiple stripes and wipes Video A to show those stripes.

X Divide Number of horizontal repetitions that occur in the transition.

Y Divide Number of vertical repetitions that occur in the transition.

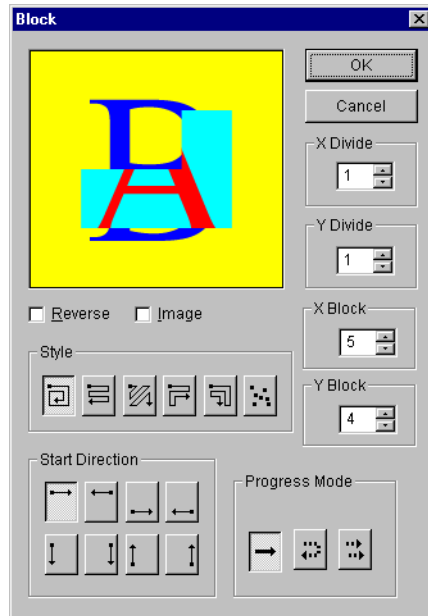
Stripe Number
Number of stripes.

Style Determines how the sections enter the video frame.

Reverse Swaps Video A and Video B.

Image Displays a video frame for Video A and Video B instead of the A and B images.

Block



Block divides Video B into multiple blocks and pops the blocks over Video A.

X Divide Number of horizontal repetitions that occur in the transition.

Y Divide Number of vertical repetitions that occur in the transition.

X Block Number of blocks horizontal blocks.

Y Block Number of blocks vertical blocks.

Style Determines how the blocks appear in the video frame.

Start Direction

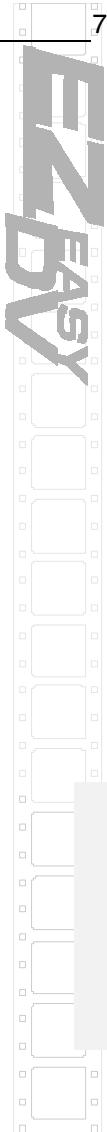
Determines from where and which way the blocks appear.

Progress Mode

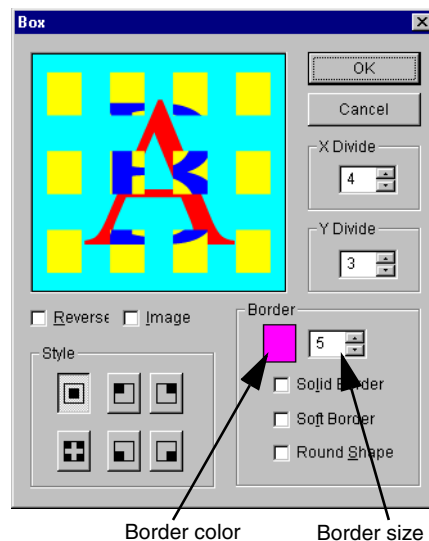
Determines whether the block appearance goes linearly, skips forward then back, or is staggered.

Reverse Swaps Video A and Video B.

Image Displays a video frame for Video A and Video B instead of the A and B images.



Box



Box makes Video B appear as a group of growing boxes that fill over Video A.

X Divide Number of horizontal repetitions that occur in the transition.

Y Divide Number of vertical repetitions that occur in the transition.

Style Determines how and where the blocks appear in the video frame.

Border color
Determines the color of the border, if any.

Border size
Determines the width of the border, if any.

Solid border
Enables the border.

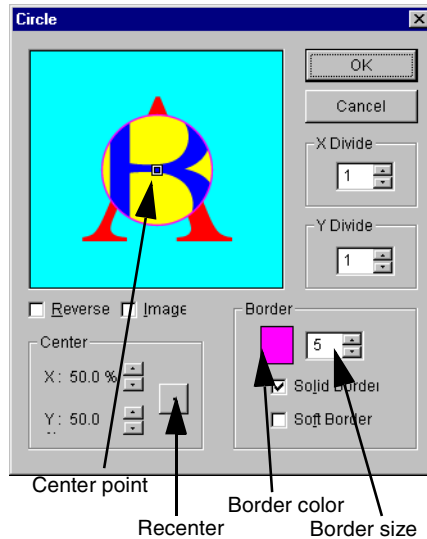
Soft Border
Softens the border with a slight feathering.

Round Shape
Applies rounded corners to the border.

Reverse Swaps Video A and Video B.

Image Displays a video frame for Video A and Video B instead of the A and B images.

Circle



Circle makes Video B appear as a growing circle that fills over Video A.

X Divide Number of horizontal repetitions that occur in the transition.

Y Divide Number of vertical repetitions that occur in the transition.

Style Determines how and where the blocks appear in the video frame.

Center point

Drag the center point to move the center point of the circle or use the X and Y percentages to move it. Click the Recenter button to re-center the center point.

Border color

Determines the color of the border, if any.

Border size

Determines the width of the border, if any.

Solid border

Enables the border.

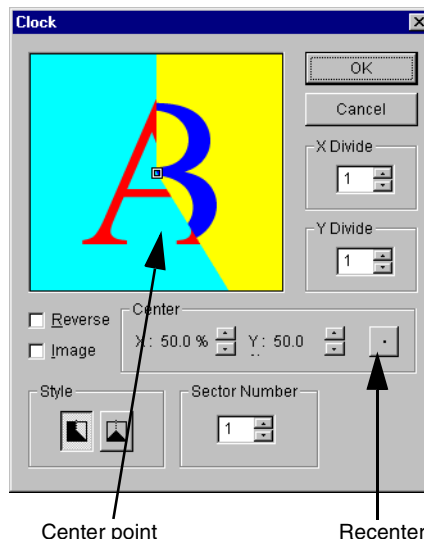
Soft Border

Softens the border with a slight feathering.

Reverse Swaps Video A and Video B.

Image Displays a video frame for Video A and Video B instead of the A and B images.

Clock



Clock wipes Video B over Video A in a sweeping motion.

X Divide Number of horizontal repetitions that occur in the transition.

Y Divide Number of vertical repetitions that occur in the transition.

Style Determines how the “wedges” are filled - from the center out, or by sweeping across.

Center point

Drag the center point to move the center point of the circle or use the X and Y percentages to move it. Click the Recenter button to re-center the center point.

Border color

Determines the color of the border, if any.

Border size

Determines the width of the border, if any.

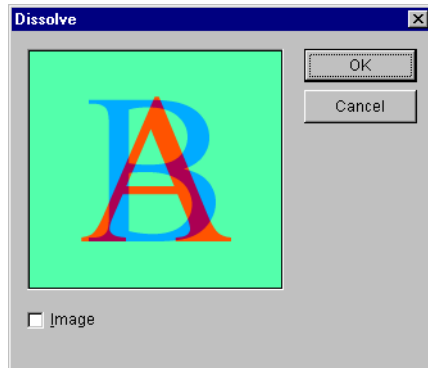
Sector Number

Determines the number of “wedges” in the transition.

Reverse Swaps Video A and Video B.

Image Displays a video frame for Video A and Video B instead of the A and B images.

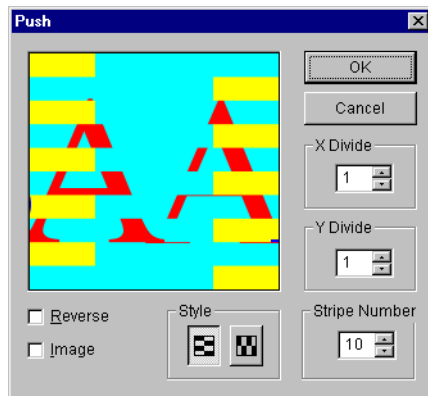
Dissolve



Dissolve fades Video A out while simultaneously fading Video B in.

Image Displays a video frame for Video A and Video B instead of the A and B images.

Push

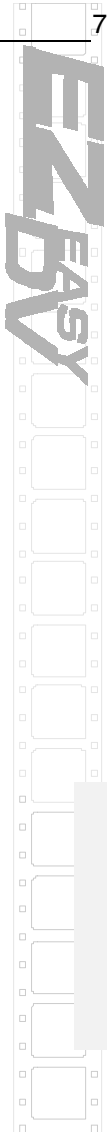


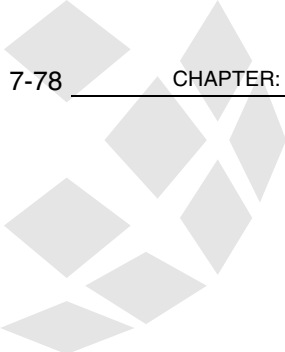
Push is similar to Blind Slide, except the Video A stripes get pushed by the Video B stripes.

Blind Slide divides Video B into multiple stripes and slides those stripes over Video A.

X Divide Number of horizontal repetitions that occur in the transition.

Y Divide Number of vertical repetitions that occur in the transition.





Stripe Number

Number of stripes.

Style

Determines how the sections enter the video frame.

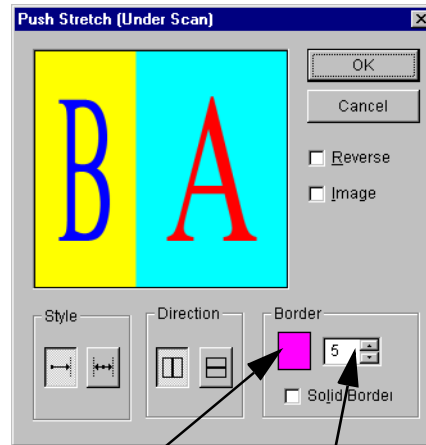
Reverse

Swaps Video A and Video B.

Image

Displays a video frame for Video A and Video B instead of the A and B images.

Push Stretch (Under Scan)



Border color

Border size

Push Stretch has Video B “squash” Video A.

Style

Determines how Video B comes in - from the side or the middle.

Direction

Determines whether Video B comes in horizontally or vertically.

Border color

Determines the color of the border, if any.

Border size

Determines the width of the border, if any.

Solid border

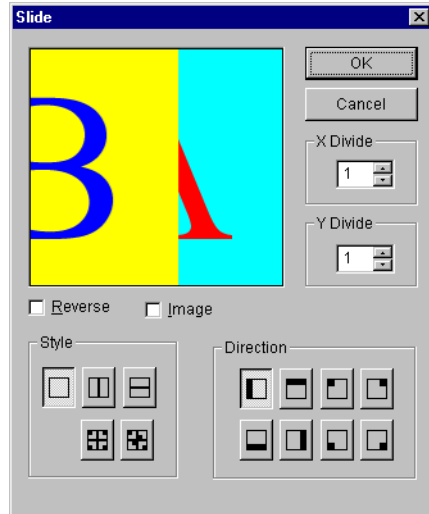
Enables the border.

Reverse

Swaps Video A and Video B.

Image Displays a video frame for Video A and Video B instead of the A and B images.

Slide



Slide has Video B slide in over Video A.

X Divide Number of horizontal repetitions that occur in the transition.

Y Divide Number of vertical repetitions that occur in the transition.

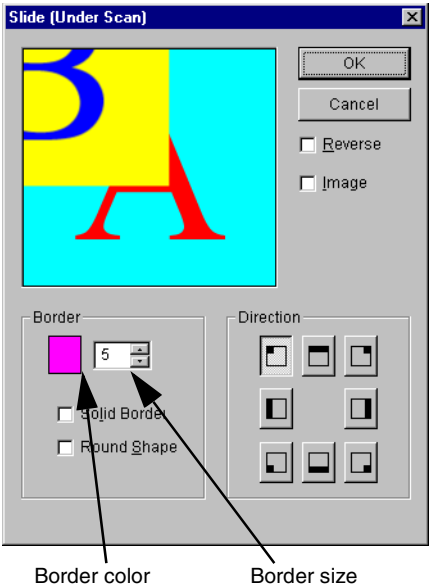
Style Determines how Video B comes in.

Direction Determines which side or corner Video B comes in from.

Reverse Swaps Video A and Video B.

Image Displays a video frame for Video A and Video B instead of the A and B images.

Slide (Under Scan)



Slide (Under Scan) slides Video B in over Video A with an optional border.

Border color

Determines the color of the border, if any.

Border size

Determines the width of the border, if any.

Solid border

Enables the border.

Round Shape

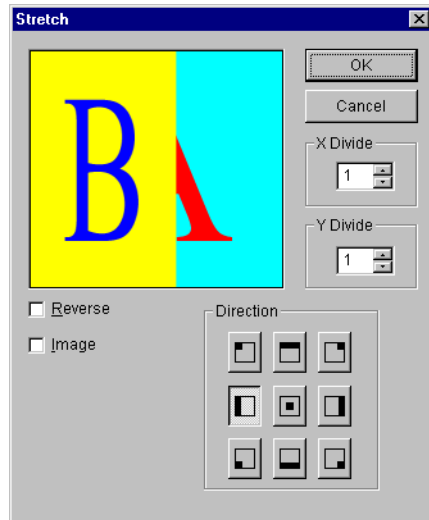
Applies rounded corners to the border.

Direction Determines which side or corner Video B comes in from.

Reverse Swaps Video A and Video B.

Image Displays a video frame for Video A and Video B instead of the A and B images.

Stretch



Stretch takes Video B and stretches it over Video A.

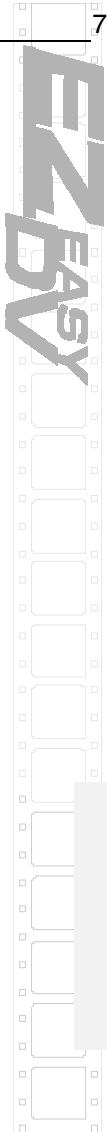
X Divide Number of horizontal repetitions that occur in the transition.

Y Divide Number of vertical repetitions that occur in the transition.

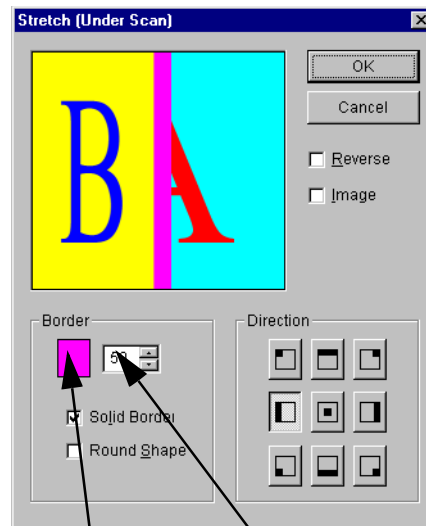
Direction Determines which side or corner Video B comes in from.

Reverse Swaps Video A and Video B.

Image Displays a video frame for Video A and Video B instead of the A and B images.



Stretch (Under Scan)



Border color

Border size

Stretch (Under Scan) stretches Video B over Video A with an optional border.

Border color

Determines the color of the border, if any.

Border size

Determines the width of the border, if any.

Solid border

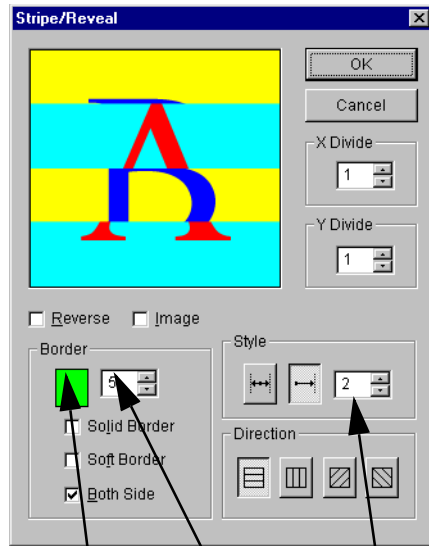
Enables the border.

Direction Determines which side or corner Video B comes in from.

Reverse Swaps Video A and Video B.

Image Displays a video frame for Video A and Video B instead of the A and B images.

Stripe/Reveal



Border color Border size Stripe number

Stripe/Reveal wipes Video B over Video A in multiple stripes.

Border color

Determines the color of the border, if any.

Border size

Determines the width of the border, if any.

Solid border

Enables the border.

Soft Border

Softens the border with a slight feathering.

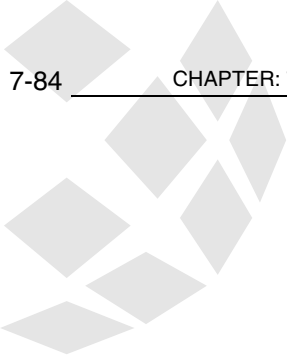
Both Side Determines whether the border is applied to both sides of the stripe or just one.

Style Determines how Video B comes in - from one side or from the middle.

Direction Determines the orientation of the Video B stripes.

Reverse Swaps Video A and Video B.

Image Displays a video frame for Video A and Video B instead of the A and B images.





Troubleshooting

Troubleshooting

This chapter will cover some common problems with EZDV and steps you can use to resolve them before you need to contact Canopus Technical Support.

Pre-Installation issues

My computer does not meet the minimum requirements for EZDV. Can I still use it?

The minimum requirements for EZDV are exactly that. While EZDV might work in your system, we cannot guarantee that it will, nor can we provide support for EZDV in a system that does not meet the minimum requirements.

I don't have a DV or Digital 8 camera or deck. Can I use EZDV?

Not really. EZDV requires a DV or Digital 8 camera or deck to acquire and output footage. If you somehow have AVIs compressed with the Canopus DV CODEC footage on your computer (from another machine with a Canopus DV card) then you could edit the footage. Still, EZDV is designed for users who have a DV or Digital 8 source.

I have a DVCAM camera or deck. Can I use it with EZDV?

No. EZDV does not support DVCAM. It supports DV only.

I have a DVCPRO camera or deck. Can I use it with EZDV?

No. EZDV does not support DVCPRO. It supports DV only.

Can I capture analog footage with EZDV?

No. EZDV does not have any analog capture capabilities. However, if your DV camera or deck can record analog footage to DV tape, you can then use that DV tape with EZDV.

Can EZDV output analog audio or video?

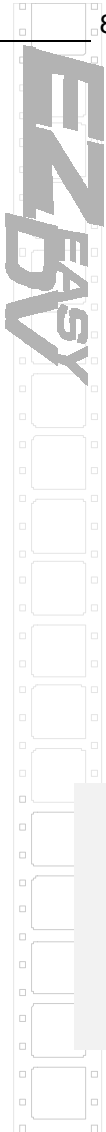
No. EZDV does not have any analog audio or video output capabilities. If you need analog output, connect your DV camera or deck to EZDV and use the analog output on your camera or deck.

I have a NTSC (or PAL) EZDV card. Can I use a PAL (or NTSC) camera or footage with it?

No. The NTSC version of EZDV supports only NTSC footage and devices, while the PAL version of EZDV supports only PAL footage and devices.

My computer is overclocked. Can I use EZDV in it?

Canopus does not support overclocked machines. Overclocking often puts the PCI bus out of specification and this can cause numerous problems from intermittent connection loss to lockups. Please do not overclock your machine if you are going to use EZDV in it.



Installation issues

EZDV is not detected by EZDVTest or behaves erratically

First of all, make sure EZDV is installed correctly. Check that the EZDV PCI card is seated in the PCI slot. Try switching slots or reseating the card. Many motherboards have the AGP slot sharing resources with the PCI slot next to it. This can cause problems.

Check for IRQ conflicts with other devices in the system. EZDV should have its own IRQ, preferably 9 or higher.

Also, check the PCI Latency timer in your BIOS settings. The latency timer should be set to 64 or higher, however not all motherboards allow you to change the timer. Please consult with your motherboard manufacturer for more details.

If Power Management (especially ACPI) is enabled, please turn it off. EZDV does not support ACPI power saving.

I cannot see video playing in the video windows of the EZDV applications.

Check that your VGA card is capable of DirectDraw overlay. You can use the EZDVTest utility to check this. If your VGA card does not support DirectDraw overlay, you will not be able to see video playing on the computer. You should still be able to see video playing through your DV or Digital 8 device, if it has a screen or viewfinder.

Some VGA cards do not support DirectDraw overlay at all refresh rates, color depths, and refresh rates. Try 1024x768, 16-bit color at 75 Hz or 1152x856, 16-bit color at 60 Hz. Also make sure you are using the latest driver for your video card.

General usage issues

Does EZDV support 16:9 aspect ratio?

No. EZDV supports 4:3 aspect ratio only.

I get “Disk speed is too slow” during capture. What’s wrong?

This message means that your hard disk cannot sustain the required 4.5 MB/sec transfer rate. You can test your drive speed with EZDVTest.

If you have a dedicated video drive, make sure you are capturing to it and not your system drive.

Drives have a tendency to slow down as they become full due to fragmentation. Defragmenting your drive may help a drive that used to be able to capture.

Run ScanDisk to check your drive for errors as well. Drive errors can often cause the write speed to drop.

If you are using Windows NT, and are capturing to an IDE disk drive, you may need to enable DMA transfers using the DMACHECK utility from Microsoft.

I cannot capture more than 9 minutes of video into one file.

You are encountering the 2 gigabyte AVI filesize limitation. You need to capture as a Reference AVI, or use Seamless capture to capture to multiple files.

Why do I get “Disk Write Error” the first time I capture, but it captures okay in subsequent captures?

If you have Power Management turned on, your hard drives may be going to sleep. This is especially true if you have a separate hard drive dedicated for video.

In general, it is a good idea to turn Power Management off on your video editing machine.

I cannot output my production to tape.

Check that the tape in your camera or deck is not write-protected.

If you are using a PAL DV or Digital 8 device, it may have its DV Input capability disabled (especially in Europe). Some devices that have DV-In disabled can be enabled by third party hardware. Unless you can enable DV input, you will not be able to output your production back to tape.

The stills in my timeline jitter or have incorrect colors.

Still images that are not specifically tailored for video may jitter. If this is the case, you should de-interlace them using image manipulation software such as Adobe Photoshop.

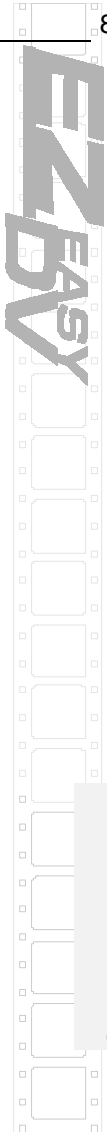
Furthermore, the full RGB color range used on the computer is not valid for video. Colors in images should be restricted between RGB 15, 15, 15 and 240, 240, 240, approximately. Again, image manipulation software may be of use to convert colors to “safe colors.”

Still images in my production look slightly distorted on output.

This is probably due to the difference between DV pixels, which are rectangular, and computer pixels, which are square. To compensate for this, when using square pixel images, such as those from a scanner or digital camera, crop them to 640x480 before bringing them into EZ Edit.

What are the specifications for rendering to the Canopus DV CODEC from another application?

The DV specification requires both audio and video. Video must be 720x480 for NTSC, or 720x576 for PAL. Audio



must be 32 kHz 12-bit stereo, 44.1 kHz 16-bit stereo, or 48 kHz 16-bit stereo.

If you generate an AVI with no audio (from a 3D modeling application, for example), you should use EZ Edit to add accompanying audio (even if it is zero-level audio) before outputting to tape.

What colorspace does EZ Edit edit in?

EZ Edit edits in YUV colorspace.

Other questions

Why does SoftXplode not work in Windows NT?

SoftXplode requires DirectX 6.1 or higher. Windows NT only has DirectX 3.0. In order to have Xplode effects under Windows NT, you will need to get the Canopus Xplode AGP card. Alternatively, you can upgrade to Windows 2000.

Where can I get more information?

Go to the EZDV section of the Canopus website at <http://www.justedit.com/ezdv>

While you're there, you can also visit our User groups where you can get help and advice from customers using Canopus products around the world.